

# Mamiya

## SERVICE INSTRUCTIONS

for  
*Mamiya M645*

- AE Prism Finder
- CDS Prism Finder
- PD Prism Finder



**General Specifications  
for  
AE Prism Finder**

## Specifications

Viewfinder: Pentaprism type with correct, upright image. The magnification ratio is 0.74x with the standard lens focused at infinity.

Metering system: Center-weighted, averaged TTL open-aperture metering.

Control system: Aperture-priority, shutter-speed control.

Shutter coupling range: 2-1/1000 second.

Light measuring range: (ASA 100)

EV2.85-EV17 with f/1.9 lens (f/1.9, 1/2 sec. to f/11,  
1/1000 sec.).

EV4-EV18 with f/2.8 lens (f/2.8, 1/2 sec. to f/16,  
1/1000sec.).

Film sensitivity range: ASA25-ASA6400.

Aperture coupling range: Couples at all apertures of all available lenses.

AE lock: Pressing the AE lock button locks in the exposure value. AE control returns when the lock button is released.

How to connect measuring instruments

A. Set SLS-7 Dummy body, SLS-8 Digital multi tester and SLS-9 Regulated D.C. power supply to U-7 Light source box and EE-tester and wire those cords as shown in the Fig. 1.

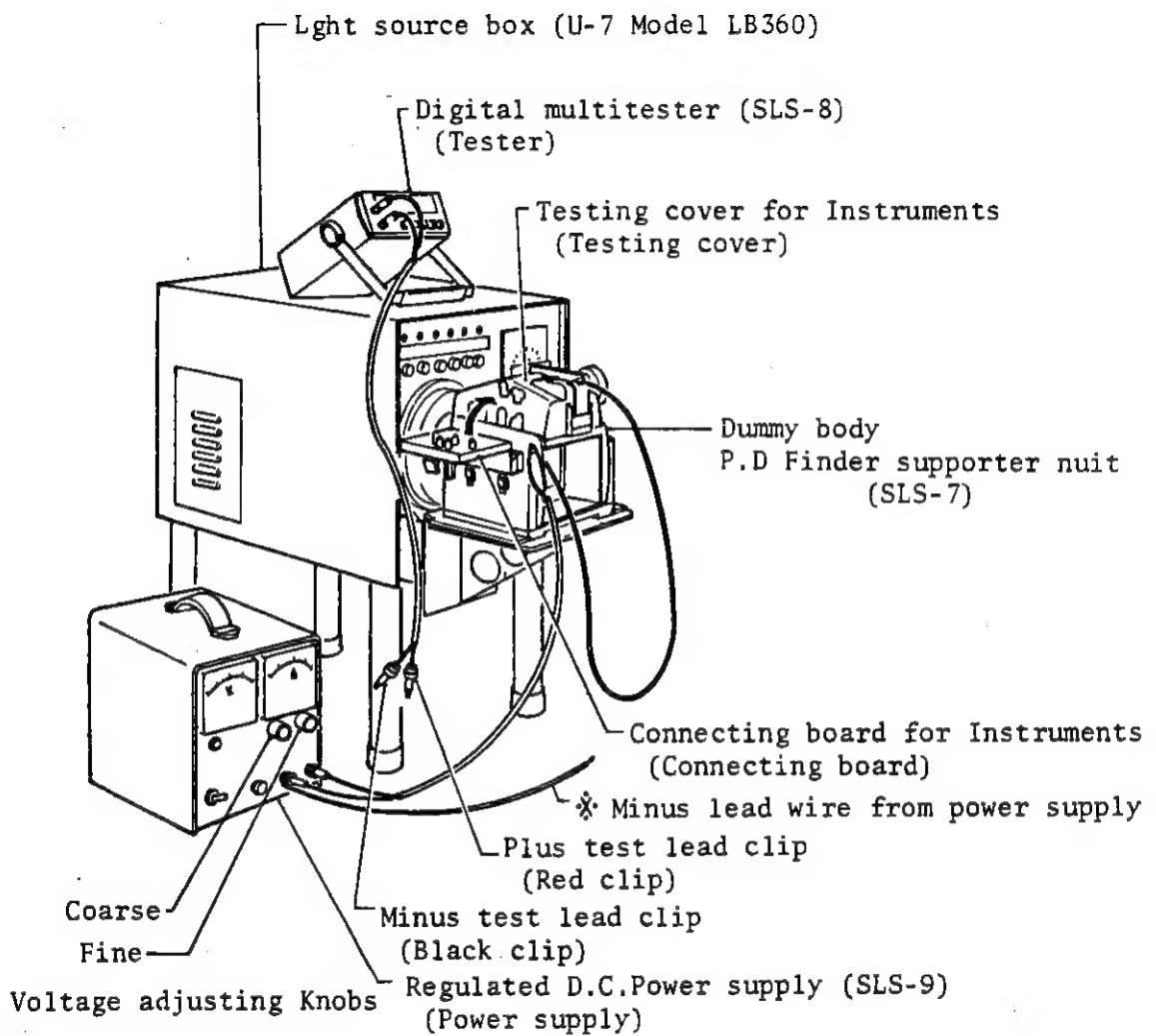


Fig.1

Note: When measuring the P.D. prismfinder with SLS-8 Digital multi tester, the minus, lead wire from SLS-9 can be used for minus terminal.

B. How to connect electric power cords:

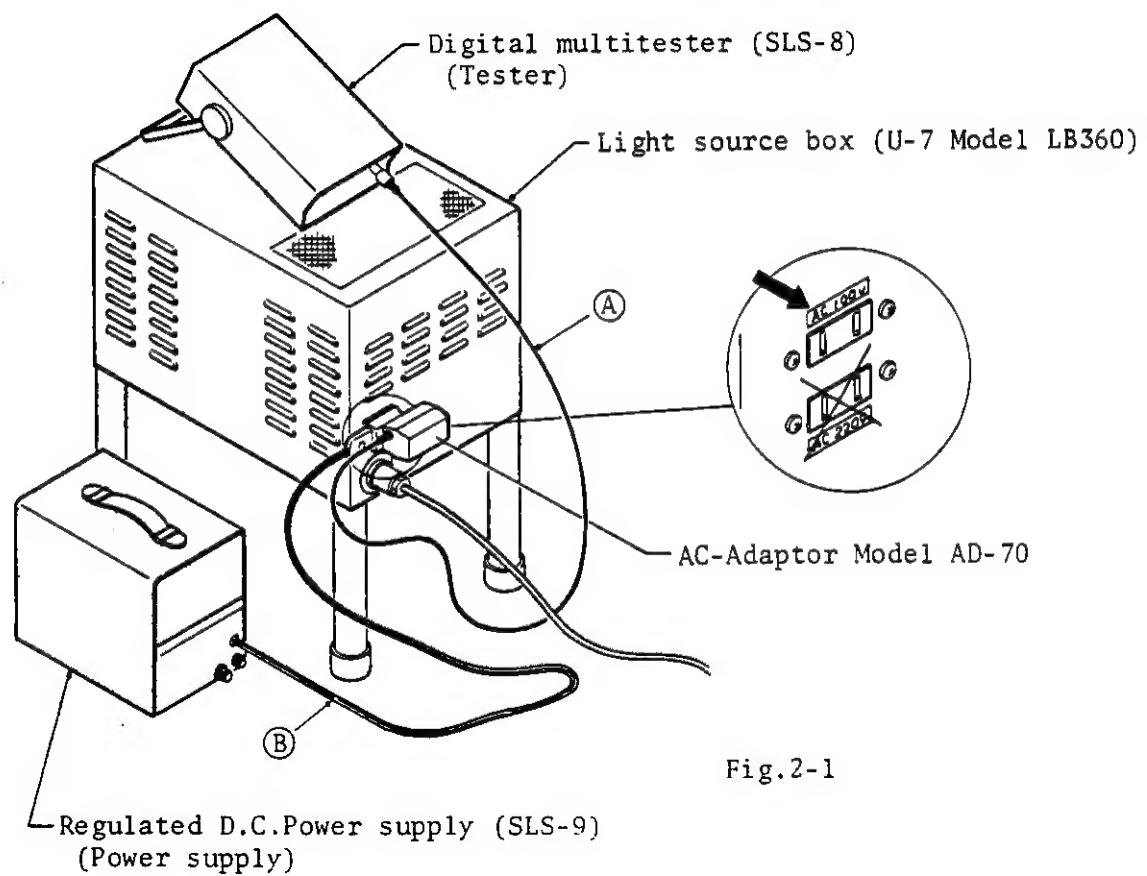


Fig.2-1

Regulated D.C.Power supply (SLS-9)  
(Power supply)

Connect the electric power cords Ⓐ and Ⓑ to the wall socket for AC 100V on back of the U-7 Light source box as shown in the Fig. 2-1.

\*Very important note:

Never put the above mentioned two cords into wall socket for AC-200V.

The wall socket for AC-200V is for only EE-Camera tester (U-8Model CEE-1A) as shown in the Fig.2-2.

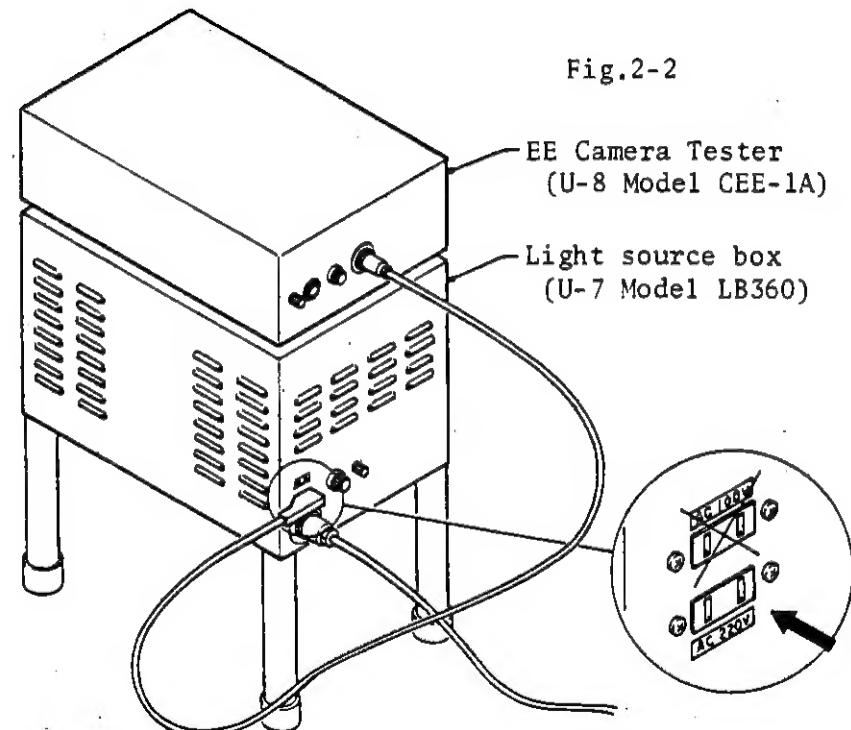


Fig.2-2

**Repair Manual  
for  
AE Prism Finder**

**Electric Circuit Diagram**  
for AE Prism Finder

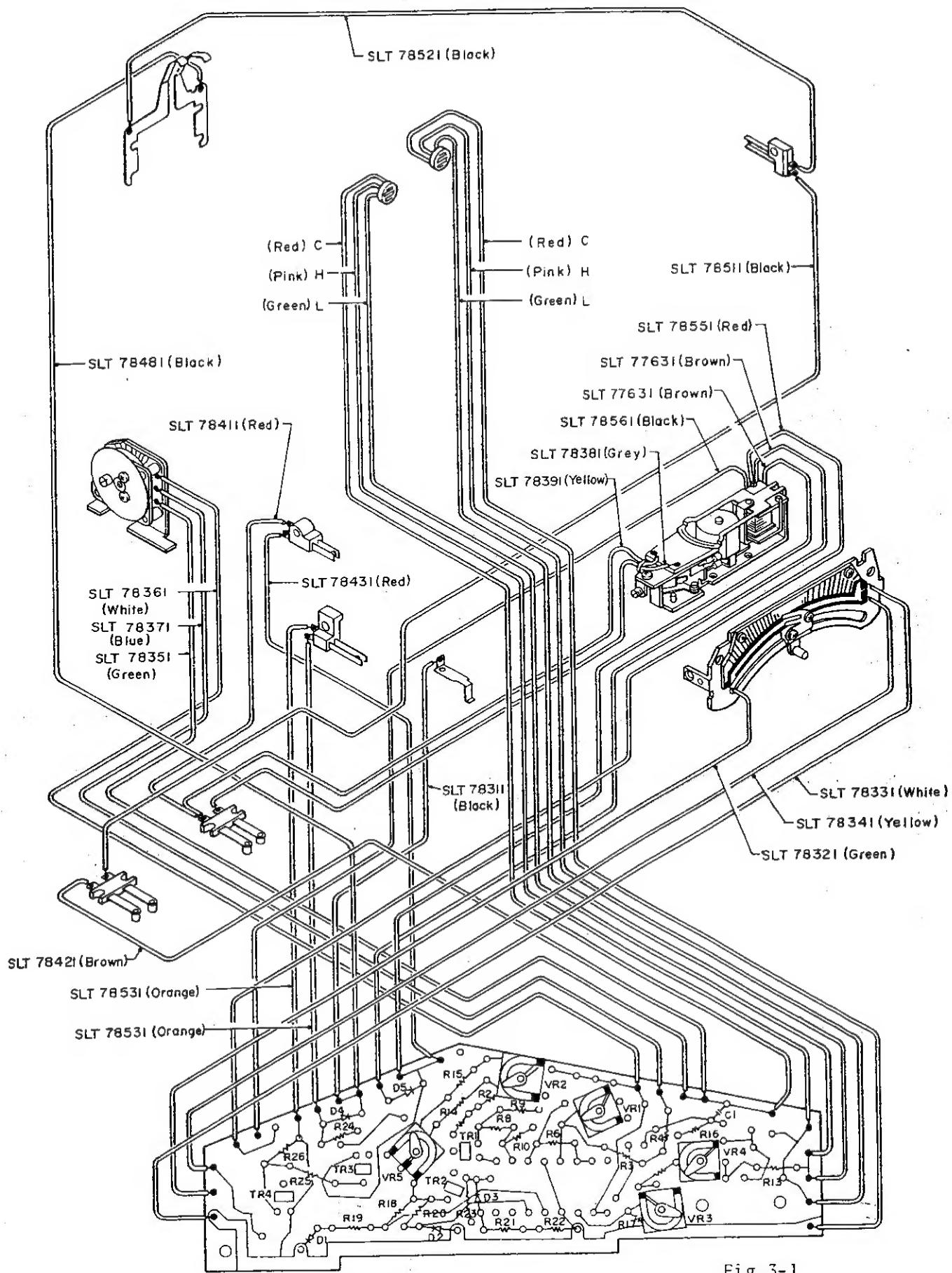


Fig.3-1

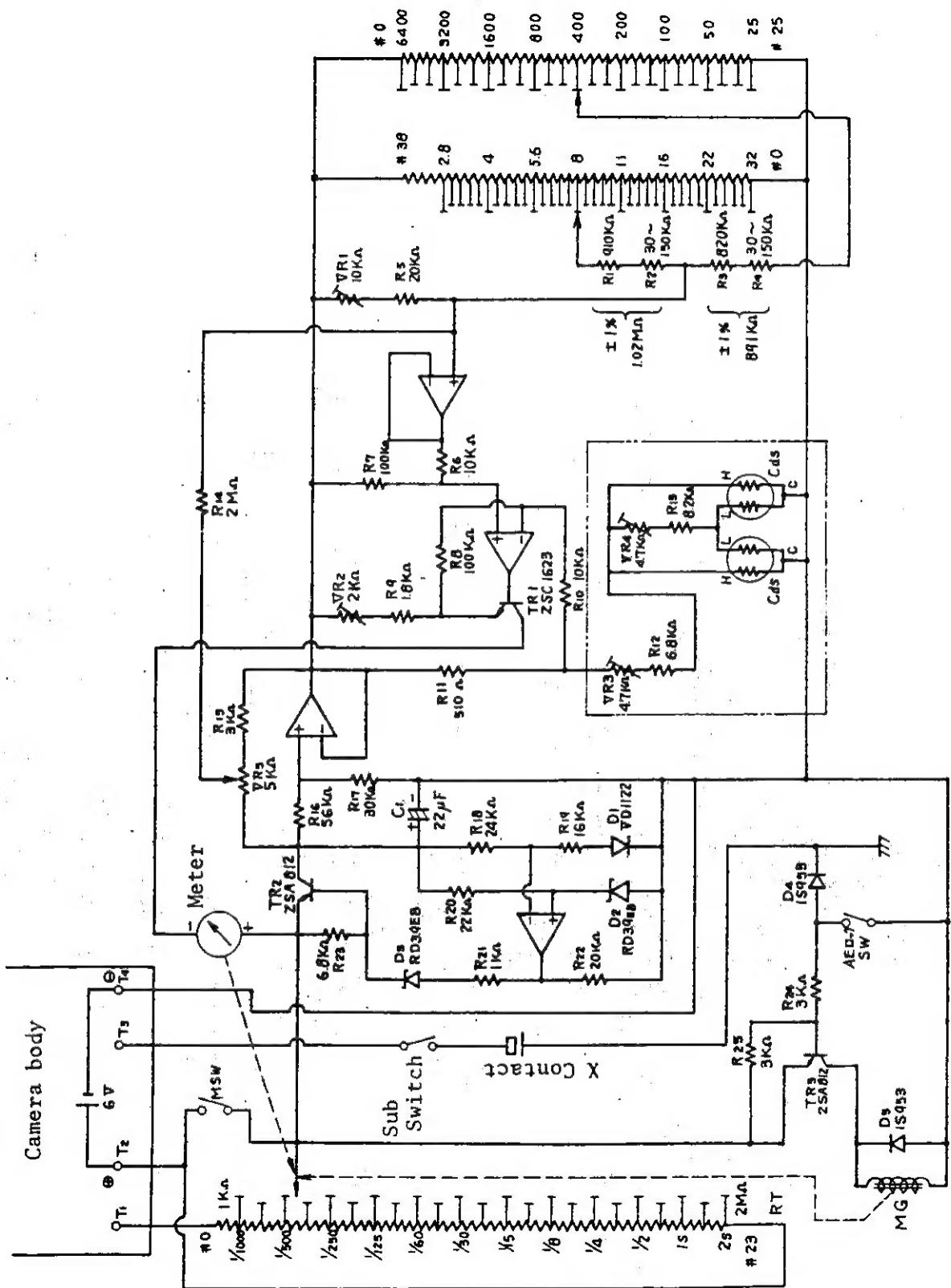


Fig.3-2

## Contents

Page

<u>1. Disassembly and reassembly of Top cover and Exposure meter</u>	
<u>1-1 Top cover (SLT75411)</u> .....	12
A. Disassembly .....	12
B. Reassembly .....	12
<u>1-2 Exposure meter (SLT77501)</u> .....	13
A. Disassembly .....	13
B. Reassembly .....	13
<u>2. Trouble shooting</u>	
<u>2-1 General check</u> .....	14
<u>2-2 Check by the tester</u> .....	17
<u>2-3 Checking exposure meter by 6 volt battery</u> .....	18
<u>3. Check and adjustment of exposure meter</u>	
<u>3-1 Check and adjustment No. I</u> .....	19
(Circuit for SLT77501 Exposure meter)	
<u>3-2 Checking output of exposure meter</u> .....	20
(Measurement of each terminal resistance on exposure meter printed circuit)	
<u>3-3 Check and adjustment No. II</u> .....	21
<u>3-4 Rechecking output</u> .....	21
<u>3-5 Voltage of CdS (V. CdS)</u> .....	22

## 1. Disassembly and reassembly of Top cover and Exposure meter

### 1-1 Top cover (SLT75411)

#### A. Disassembly

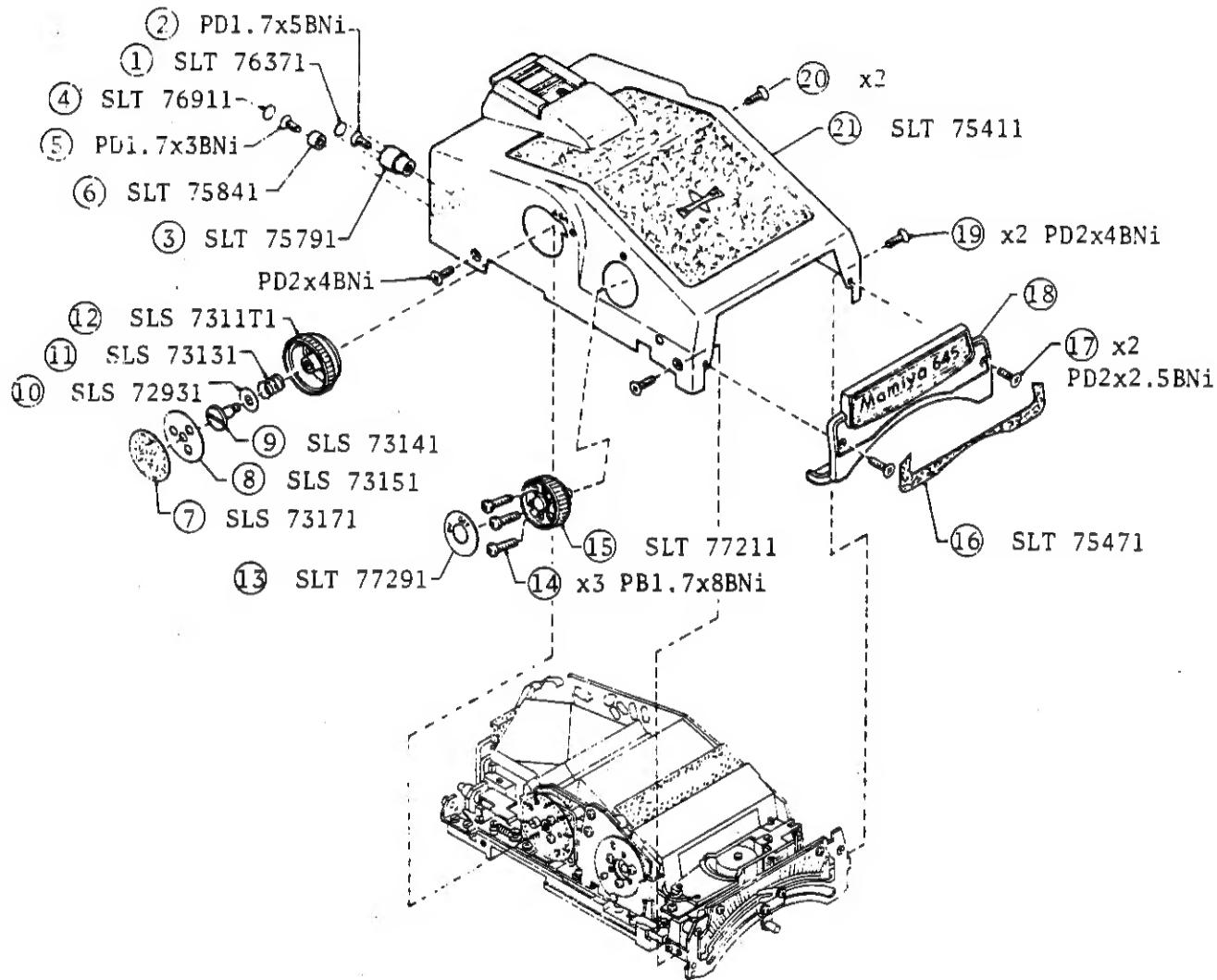


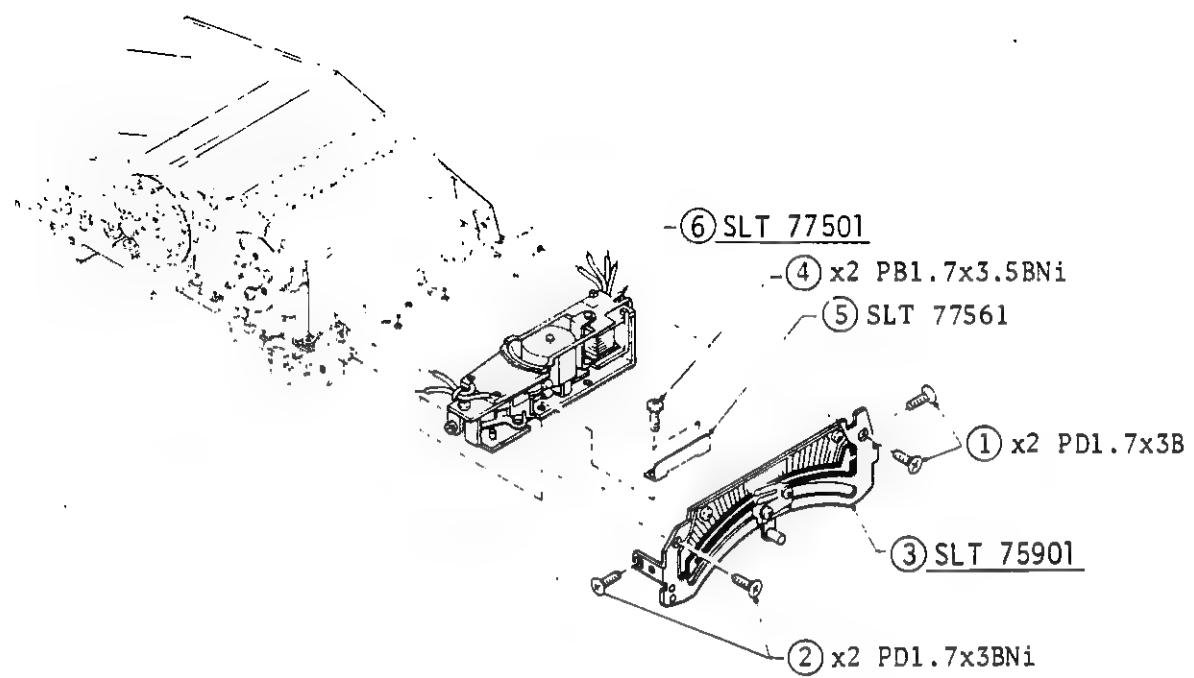
Fig.4

The arabic numeral in a circle as shown in the Fig. 4 indicates the procedure of disassembly.

#### B. Reassembly

Reassembly is normally the reverse of disassembly.

A. Disassembly



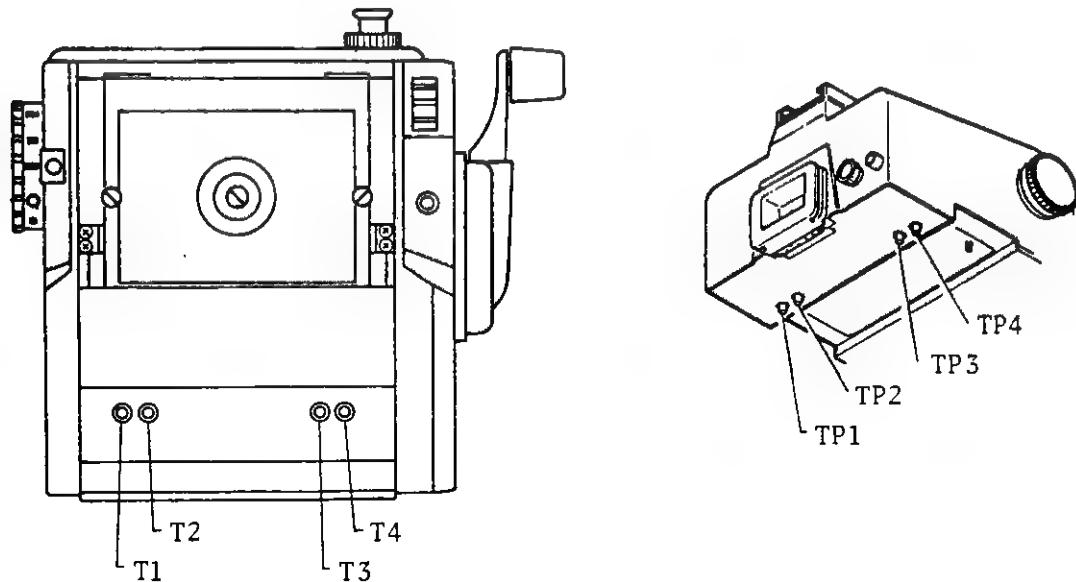
The arabic numeral in a circle as shown in the Fig. 5 indicates the procedure of disassembly.

Note: Unsolder six lead wires for the exposure meter previously.

B. Reassembly

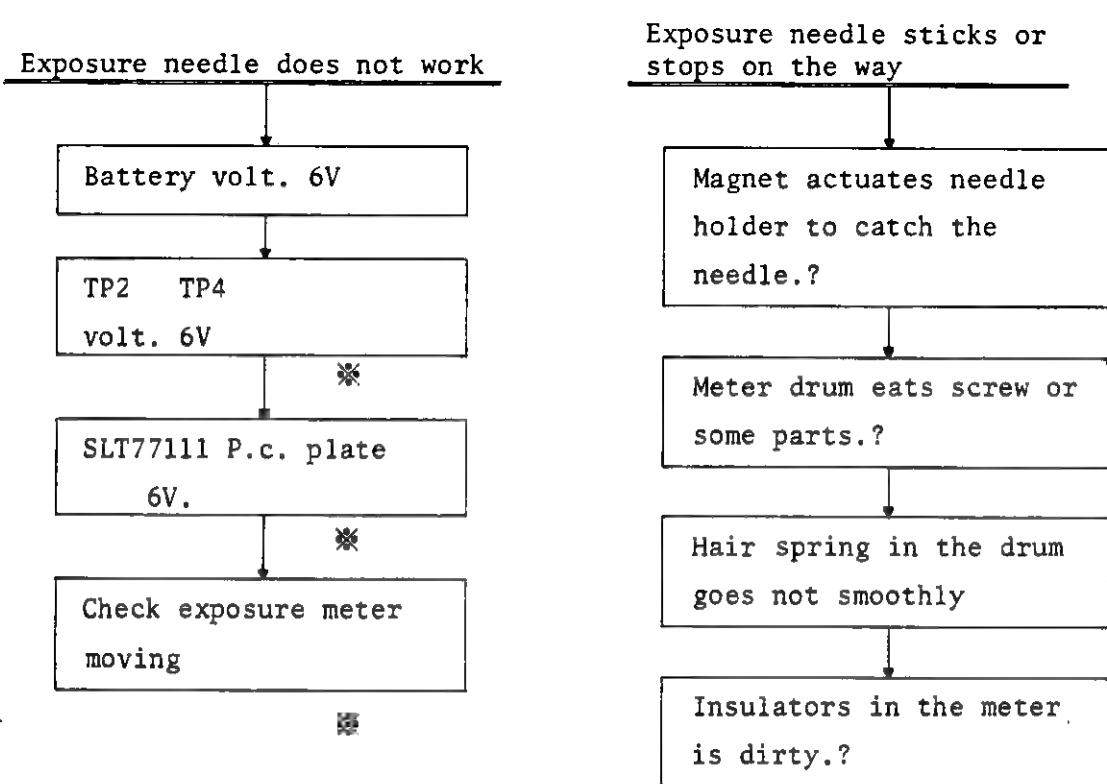
Reassembly is normally the reverse of disassembly.

Note: Terminals between camera body and AE finder.



## 2. Trouble shooting

### 2-1 General check



### Exposure needle jumps up

Check short between  
exposure meter and the  
finder body.

\*

Note: Please refer to step 2-2 and 2-3 for checking points with mark\*

When turning aperture ring,  
exposure needle does not move.

Mal-solder or broken lead  
wire for exposure meter ?

SLT77111 P.c. plate is  
good ?

When releasing shutter,  
inaccurate shutter speeds  
are. ?

Stained  
Exposure meter upper  
needle and S. printed  
circuit plate terminals ?

TP1 ~ TP2  
2M $\Omega$  ?      NO      Mal-solder or broken lead wires for TP1  
gray and TP2 yellow ?

When changing ASA value,  
exposure needle does not move.

Mal-solder or broken lead  
wire for SLT76401 ASA P.c.  
plate ?

SLT77111 P.c. plate is  
good ?

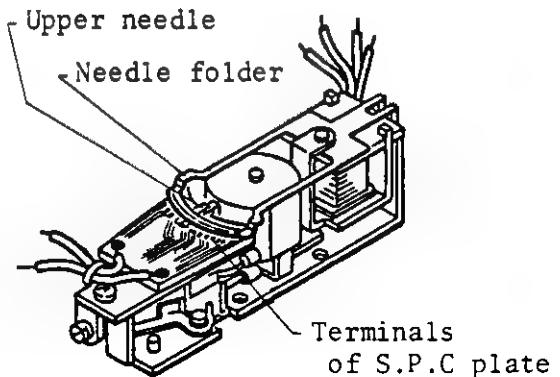


Fig.6

\* See 2-2

Mal-function of switch dial  
ON and OFF

Mal-solder or broken  
lead wire for CSL1541S1  
Main switch ?

Stained Main switch  
contacts and contact  
efficiency ?

Married contacts ?

When switching ON AE lock  
button does not react.

Mal-solder or broken  
lead wire for SLT7741S1  
AE lock switch ?

Stained switch contacts  
and its contact effi-  
ciency ?

Mal-function of exposure  
meter magnet ?

When switching OFF, red mark  
does not appear in the finder

SLT77951 Spring is out  
of place ?

Electric flash does not  
go at hot shoe ?

Stained terminals T3  
and TP3 ?

Mal-solder or broken lead  
wire for SLS73311  
Hot shoe contact and  
SLS73341 Hot shoe  
earth ?

Both contacts touch to  
Hot shoe enough ?

Mal-solder or broken  
lead wire for SLS6572S1  
Sub. switch ?

Stained Sub. switch and  
contact efficiency ?

\*

2-2 Check by tester

Tester terminals		Battery	Tester indicates	Step
Red (+)	Black (-)			
TP2	TP4	Yes	6 volt	Clean up T2, T4, TP2 and TP4 terminals
TP1	TP2	No	2 MΩ	Check mal-solder and broken lead wire for TP1 and TP2.
Red lead wire of the meter	Body earth	No	Must not have short	
Black "				
" "				
Meter needle holder and body earth		No	Must not have short	
Refer to the Fig.		Yes	6 volt	If not 6 volt on the SLT77111 P.c. plate, change it to new one.

Fig.7

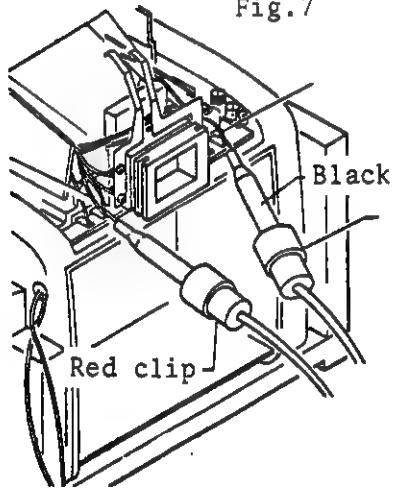


Fig.8

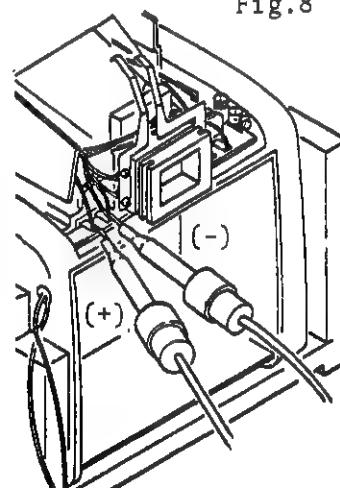


Fig.11

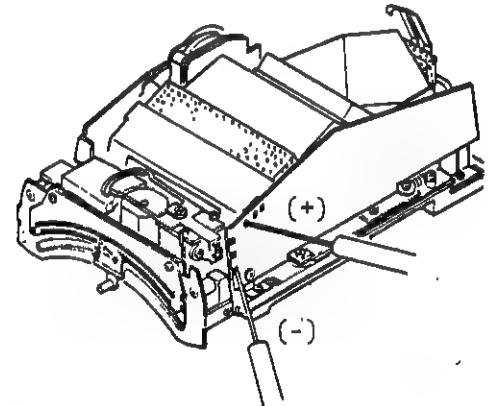


Fig.10

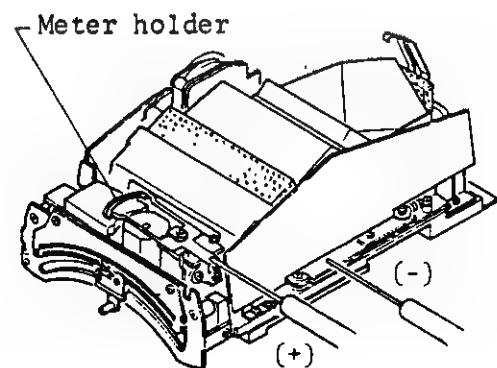
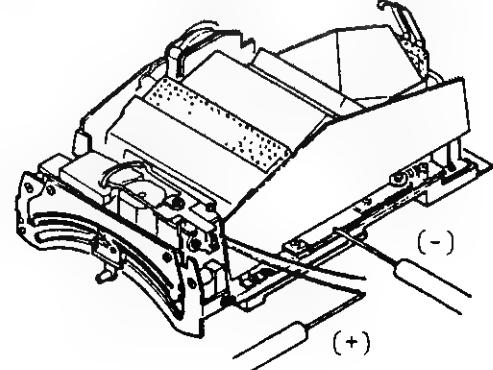


Fig.9



2-3 Checking exposure meter by 6 volt battery.

Unsolder red and black lead wires of exposure meter from the P.c. plate.

Then give about  $300\mu$  A to the meter in the circuit as shown in the Fig. 12.

In above test, the exposure meter must move.

If not, the meter is wrong.

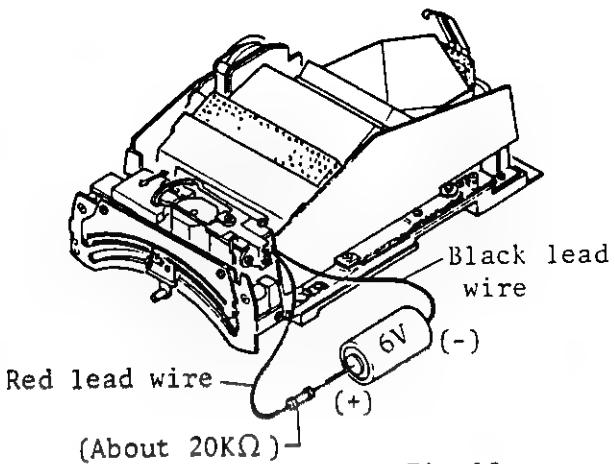


Fig.12

Unsolder two brown lead wires of exposure meter magnet from the P.c. plate.

Then connect them with 6 volt, battery directly as shown in the Fig. 13.

In above test, the meter needle holder must operate.

If not, the meter is wrong.

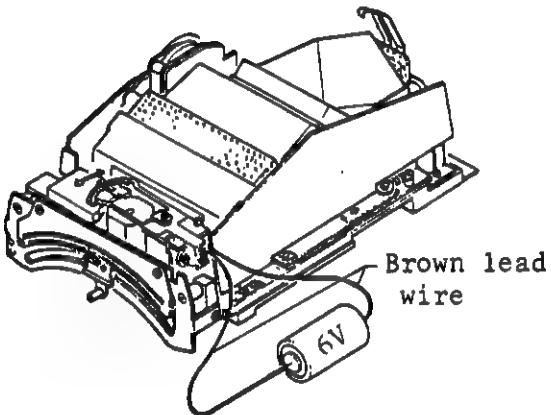


Fig.13

### 3. Check and adjustment of exposure meter

#### 3-1 Check and adjustment No.1

(Circuit for SLT77501 Exposure meter)

° Regulated D.C. Power Supply .....6 volt

° Digital multitesten terminal:

Red(+).....TP2

Black(-).....TP4

° Switch dial.....ON

EV	ASA	F.No.	Exposure needle	Adjustment
5			2sec	VR5
15			1/500	VR2
12	100	8	1/60	
11			1/30	VR5
9			1/8	
7			1/2	

1) At EV5:

a. Check

Exposure needle in the finder should point "2" sec.

Note: After setting the light source box to EV5, it must be checked thirty second later.

Cover the AE, P. finder with working top cover or a piece of black cloth for intercepting external light.

Whenever checking or adjusting, never forget to do it so.

b. Adjustment

Adjustment is made as the needle points "2" by VR5.

2) At EV15

a. Check

Exposure needle in the finder should point "1/500" sec.

b. Adjustment

Adjustment is made as the needle points "1/500" sec.

3) Check and adjust it at EV12, 11, 9 and 7 equally.

Adjustment must be made by VR5.

### 3-2 Checking output of exposure meter.

(Measurement of each terminal resistance on exposure meter printed circuit)

EV	ASA	F. NO.	Exposure needle	Limit of resistance (KΩ)		
				Stand.	Max	Mini
15	100	8	1/500	2.0	1.0	4.0
12			1/60	16.0	8	32.0
11			1/30	32.0	16	64
9			1/8	128.0	64	253
7			1/2	503.0	253	1.6MΩ
5			2sec	2.0MΩ	1.0MΩ	2.1MΩ

° After adjusting step "3-1", check "3-2".

° Unsolder gray lead wire from the TP1.

° Digital multimeter terminal

Red (+) .....Gray lead wire

Black (-) .....TP2. See Fig. 14.

#### 1) Check

Measure the resistance by pushing the AE' button at each EV.

#### 2) Adjustment

If it is out of limit adjust it by the VR5 and VR2 as referring to the step "3-1".

Note: If the exposure needle points a little bit leftside or rightside of F. number figures, it should be OK, because the resistance value in the step "3-2" is more important.

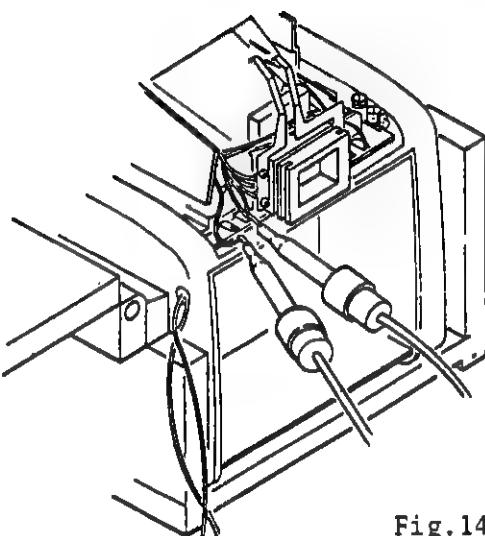


Fig.14

### 3-3 Check and adjustment NO. II

(For circuit of SLT75901 Aperture printed circuit and SLT76401 ASA unit)

After completing the step "3-1" and "3-2", perform this step 3-3.

- ° Digital multimeter terminal
  - Red (+) ..... TP2
  - Black (-).....TP4
- ° Set the switch dial of AE.P. finder ..... ON
- ° Regulated D.C.P.
  - Supply ..... 6V

EV	ASA	F. NO.	Exposure needle	Adj.
11	25	16	1/2	VR1
	6400		1/500	VR5
	100		1/8	
	400		1/30	
	1600		1/125	

1) At ASA 25

a. Check

The exposure needle in the finder should point "1/2" sec.

b. Adjustment

Adjustment is made as the needle should point "1/2" sec. by VR1.

2) At ASA 6400

a. Check

The needle in the finder should point "1/500" sec.

b. Adjustment

Adjustment is made as the needle should point "1/500" sec. by VR5.

3) Check and adjust it at ASA 100, 400 and 1600 too. Adjustment must be made by VR5.

### 3-4 Rechecking output

Recheck output as referring to step "3-2" equally.

Note: Adjustment can be normally finished so far as step "3-4".

When being undermentioned condition, perform step "3-5" primarily.

After completing the step "3-5", readjust from step "3-1" to "3-4".

1. As every parts are correct, Adjustment can not be made so far as step "3-4".
2. Replace SLT76331 CdS or SLT77111 Printed circuit plate to new one.

### 3-5 Voltage of CdS (V.CdS)

#### 1) Connecting points of the digital multimeter terminals:

There are two kinds of SLT77111

Printed circuit plate.

It is possible to replace the old printed circuit plate into new one.

How to discriminate the old plate and new one:

The printed circuit plate which has cord number of parts on its surface is the old plate.

New one has not the cord number on its surface, but it has them on its reverse side.

##### a. Old type P.C. plate

Temporarily solder about 5cm length lead wire to each pin

Ⓐ and Ⓑ and the lead wire from (+) pin Ⓑ is VC1 and other is VC2 as shown in the Fig. 15.

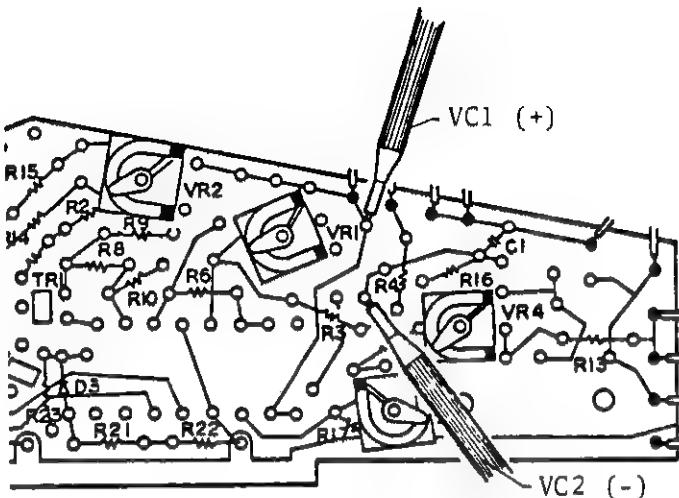


Fig.15

Connect the D.M. tester terminals to

Red (+) ..... VC1

Black (-) ..... VC2.

##### b. New type P.C. plate

Connect or clip the D.C. tester terminal with VC1 and VC2 on the P.C. plate as shown in the Fig. 16.

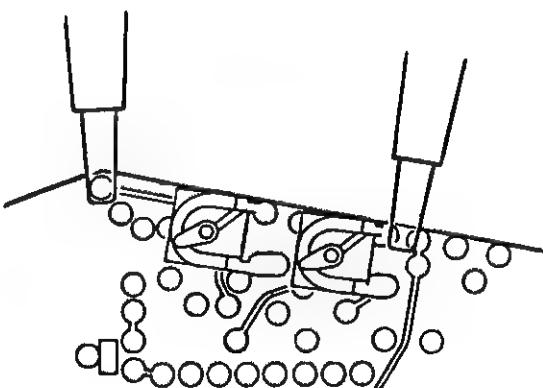


Fig.16

2) Check voltage of CdS

- ° AE.P. finder main switch ..... ON.
- ° Regulated D.C.P. Supply..... 6V

a. At EV 5

After covering the eyepiece by something for insulating external light, measure its V. CdS.

The voltage must be 10mv to 40mv.  
If not, must change it to new one.

EV	D.C. tester terminal		CdS-voltage	Adj.
	Red (+)	Black (-)		
5	VC1	VC2	10mv ~ 40mv	VR3
15			61 ~ 91	
12			45.7 ~ 75.7	
11			40.6 ~ 70.6	
9			30.4 ~ 60.4	
7			20.2 ~ 50.2	

3) At EV 15

a. Check

V. CdS should be 70.5mv to 82.5mv.

b. Adjustment

Adjustment is made by VR3.

4) Check and adjust it at EV12, 11, 9, and 7 too.

Adjustment must be made by VR4.

5) After finishing this step, the step 3-1 to 3-4 must be adjusted again.

# **General Specifications for CdS Prism Finder**

## Specifications

**Viewfinder:** Unreversed, laterally correct image; 0.74 x magnification with standard 80 mm lens at infinity; built-in hot shoe and equipped with an eyecup.

**Metering System:** Center-weight TTL full-aperture, zero-method via indicator needle.

**Meter Coupling Range:** (with f/1.9 lens and 100 ASA film)

EV2.85-17 (f/1.9, 1/2 sec. - f/11, 1/1000sec.)

(with f/2.8 lens and 100 ASA film)

EV4 - 18 (f/2.8, 1/2 sec. - f/16, 1/1000 sec.)

**Shutter Speed Range:** 1/1000 - 1 sec.

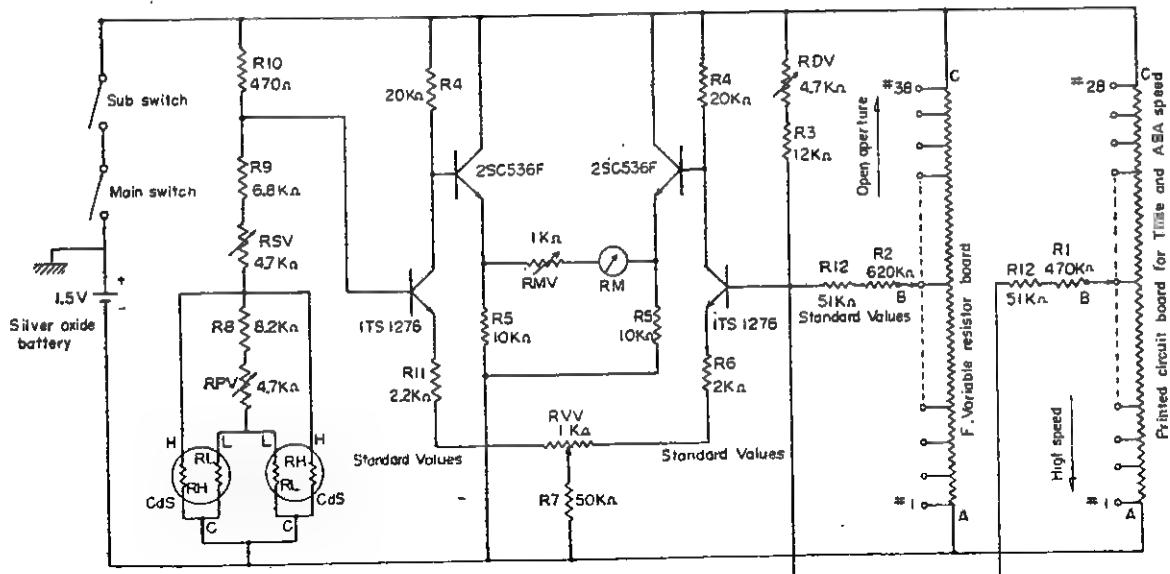
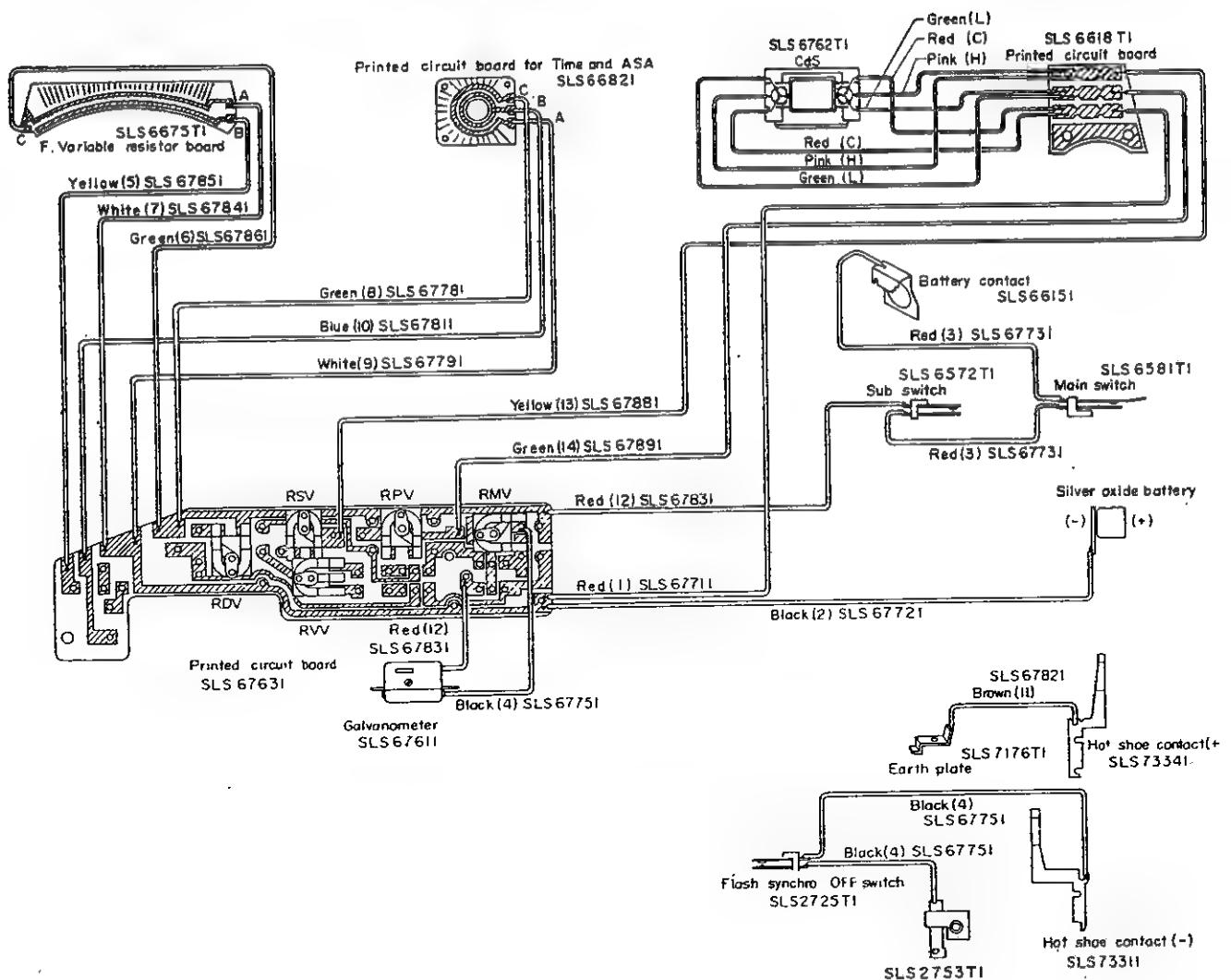
**ASA Range :** 25 - 6400

(Aperture coupling in the entire range)

**Power Source:** One 1.5 V silver oxide battery

Repair Manual  
for  
**CdS Prism Finder**

## Electric Circuit Diagram for CdS Prism Finder



## Contents

<u>1. Disassembly and reassembly of top cover</u>	Page
<u>I-1 Dis-and reassembly</u> .....	33
A. Disassembly .....	33
B. Reassembly .....	33
<u>2. Trouble shooting</u>	
<u>2-1 General check</u> .....	34
<u>2-2 Checking by tester</u> .....	37
<u>3. Check and adjustment of exposure meter</u>	
<u>3-1 Set the finder to the dummy body</u> .....	38
<u>3-2 Check and adjustment exposure value</u> .....	38
A. At EV11 .....	38
B. At EV15 and EV7 .....	38
C. Check and adjust it at EV11, 15 and 17 again .....	38
<u>3-3 Check and adjustment of one step change of exposure meter needle</u> .....	39
A. Check .....	39
B. Adjustment .....	39
<u>3-4 Both resistors RSV and RPV</u> .....	40

## 1. Disassembly and reassembly of top cover

### 1-1 Dis-and reassembly

#### A. Dis assembly

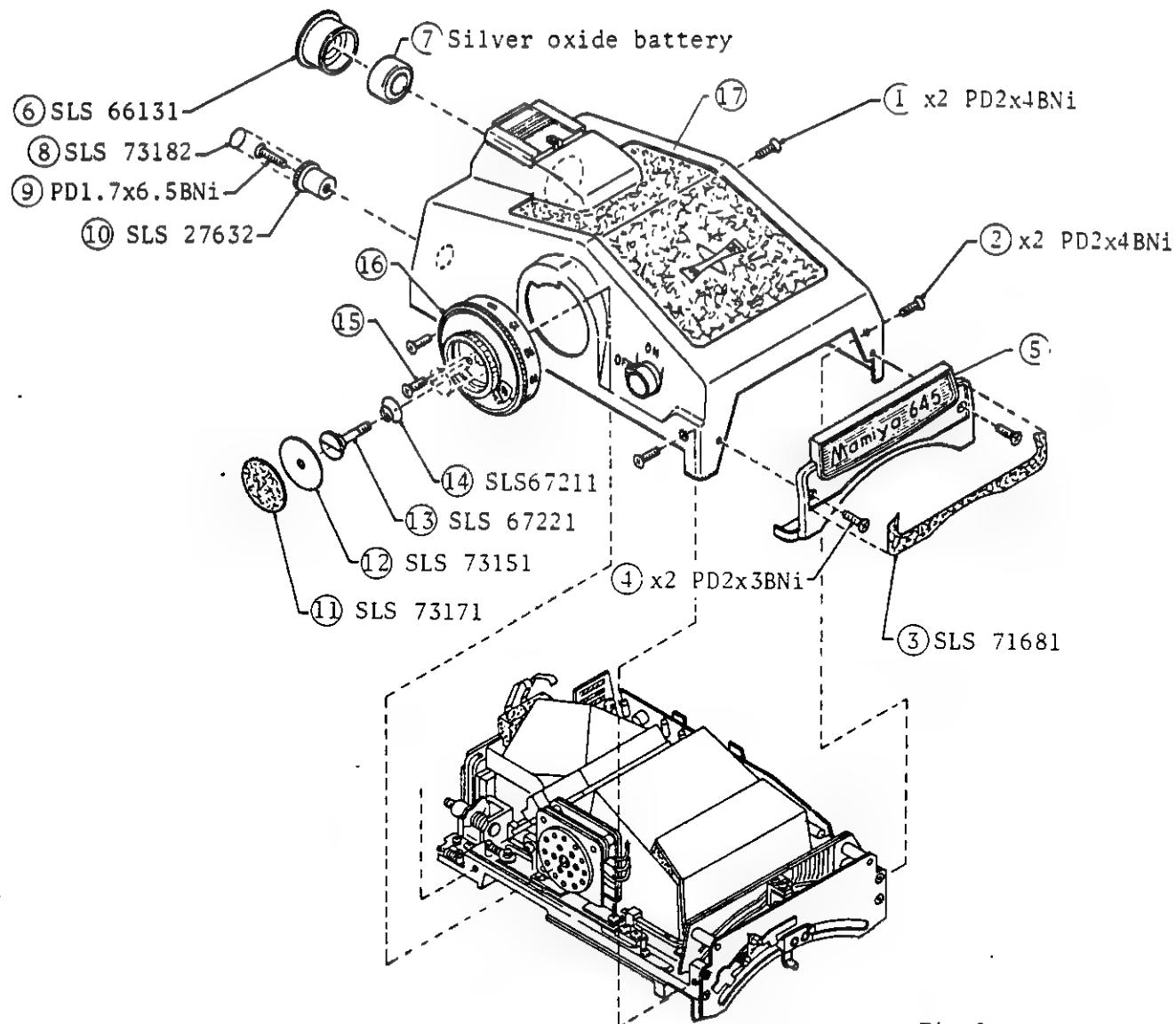


Fig.1

The arabic numeral in a circle as shown in the Fig. 1 indicates the procedure of disassembly.

- a. Set the shutter speed dial to 1/8 sec. and ASA dial to ASA 400 before removing them.

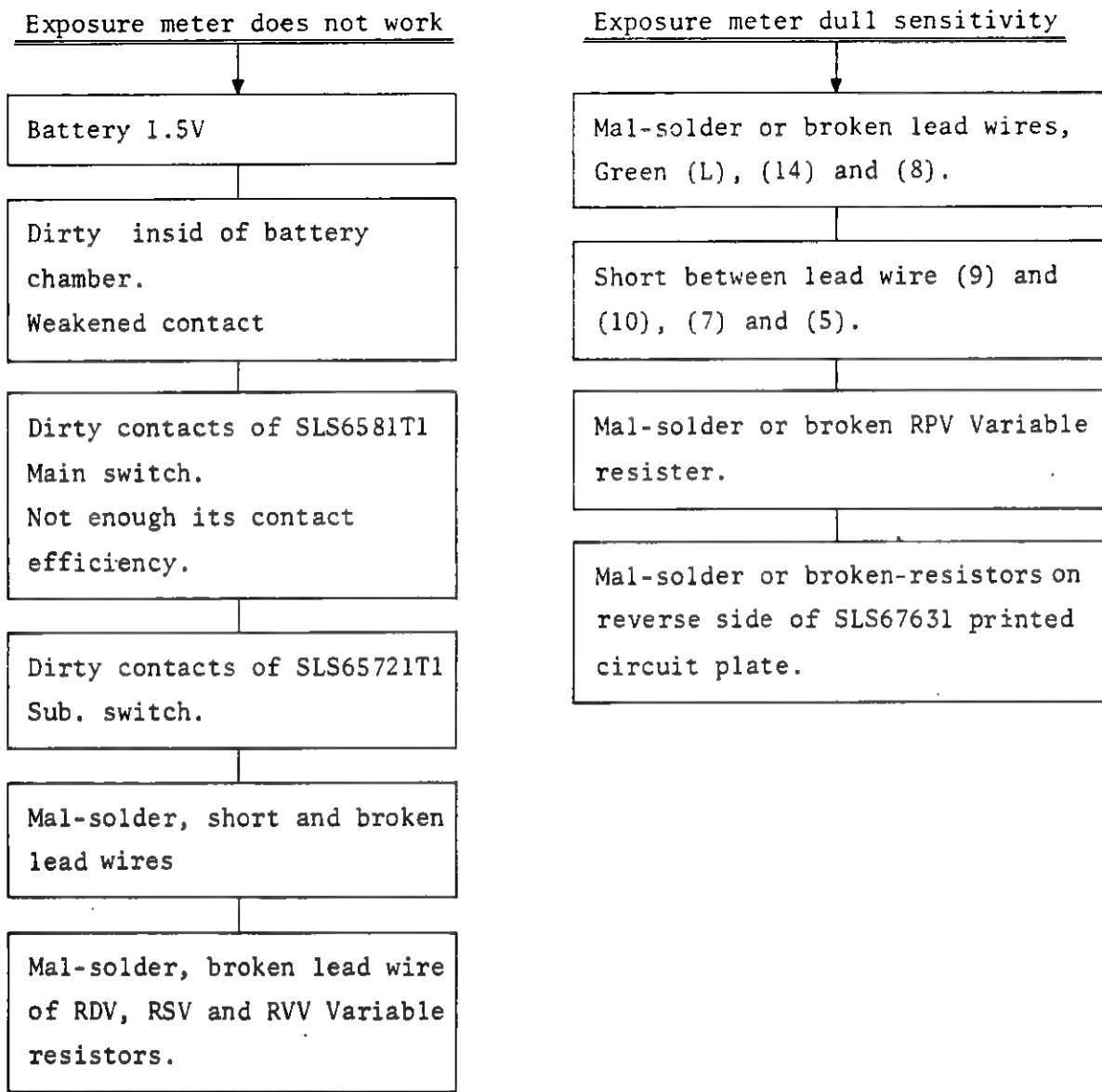
#### B. Reassembly

Reassembly is normally the reverse of disassembly.

- a. When turning shutter speed dial clockwise and counter clockwise at ASA 100, the dial must stop at 1/1000 sec. and 1/2sec.

## 2. Trouble Shooting

### 2-1 General check



Exposure meter in vibration

No good operation of hair spring in the meter drum

Dirty contact points of both printed circuit boards  
SLS66821 ASA and SLS6675T1 F.

Adequate position of SLS-72311 brush and its contact pressure ?

Exposure meter needle sticks or stops on the way

Exposure meter drum eats screw or anything else ?

Hair spring in the drum goes not smoothly.

Bent meter needle.  
The needle touches with.

\* Fig. 2

Note: Right position of SLS72311 Brush:

All contact points on the F printed circuit plate are divided into inter vales of 0.2 EV equally as shown in the Fig. 2.

For example, when the brush goes from contact point with short tail to nex contact point with short tail, one EV should be made.

With 80mm F2.8 lens, when turning aperture ring, the brush must stop on the contact with short tail at each F. number.

SLS6675T1 F. P. C. plate

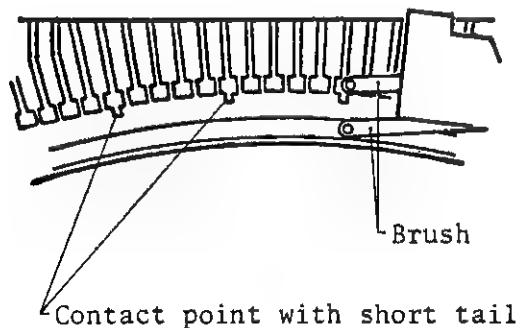


Fig. 2

Flash goes at hot shoe without shutter release

SLS2725 X. OFF switch contacts touch to body?  
Short of lead wire to the contacts?

SLS73311 Hot shoe contact touches to SLS2778T1 base plate?

Short of SLS2753T1 X. synchro terminal because of chips of solder or any other metals arround it ?

Flash does not go at hot shoe, when releasing shutter

Dirty X-synchro terminal ?  
Its contact pressure ?  
Broken lead wire ?

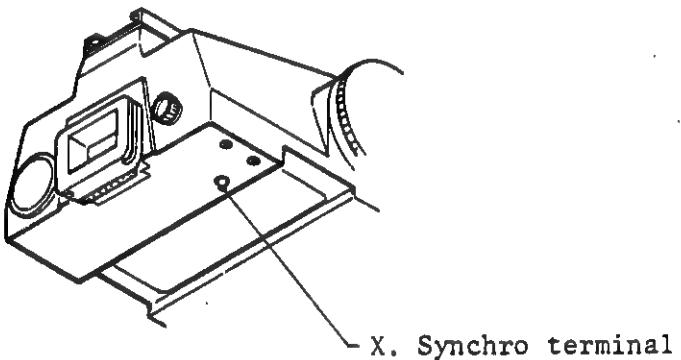
Dirty SLS73311 Hot shoe contact and SLS73341 Hot shoe earth contact and their not enough contact pressure.

Broken lead wire or mal-solder

Dirty SLS2725 X. OFF switch contacts and its broken lead wire or mal-solder

Dirty hot shoe and its fixing is loose.

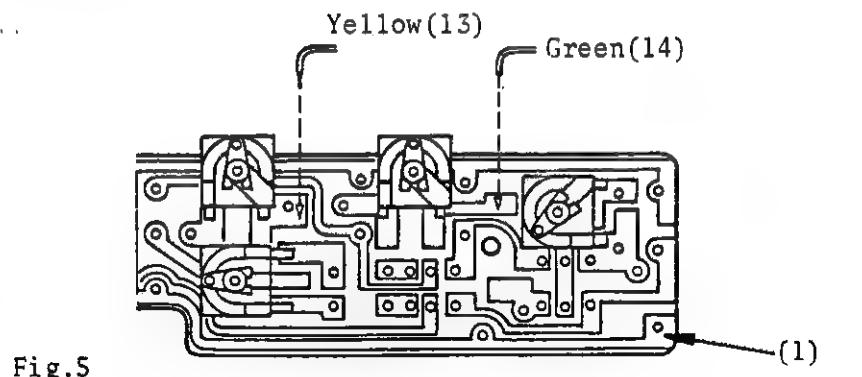
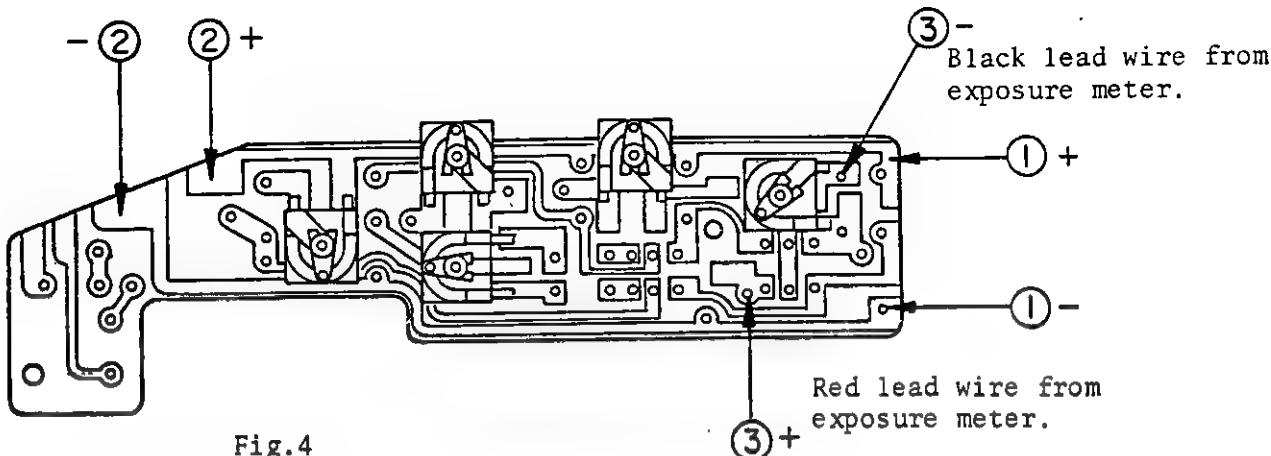
Fig.3



2-2 Checking by tester

Check point	Batt- ery	Main SW	Tester Range	Tester terminal		Remarks
				Red(+)   Black (-)		
Input to SLS6731 P.c. plate.(1.5V)	With	ON	DCV 2.5	See Fig. 4 - ①		Tester indicator Should point 1.5V.
Circuit of the P.c. plate.(1.5V)	With	ON	DCV 2.5	See Fig. 4 - ②		Ditto
Operation of exposure meter	NO	X	R1	See Fig. 4- ③		Exposure meter nee- dle must move fully.
CdS unit	NO	X	R1	Lead wire (14)	Lead wire (13)	Short must not be.  * See Fig. 5
				Lead wire (14)	Lead wire (1)	
				Lead wire (13)	Lead wire (1)	

\* After unsoldering yellow lead wire(13) and green lead wire (14) from SLS67631 P.c. plate, check it as shown in the Fig.5.



### 3. Check and adjustment of exposure meter

#### 3-1 Set the finder to the dummy body

- 1) Remove top cover and attach working top cover temporarily as shown in the Fig. 6.  
Install shutter dial temporarily.
- 2) Insert the battery and switch on its dial.
- 3) Set it to the dummy body.

Note: The SLS-7 Dummy body is common use with AE-prismfinder and PD-prismfinder.

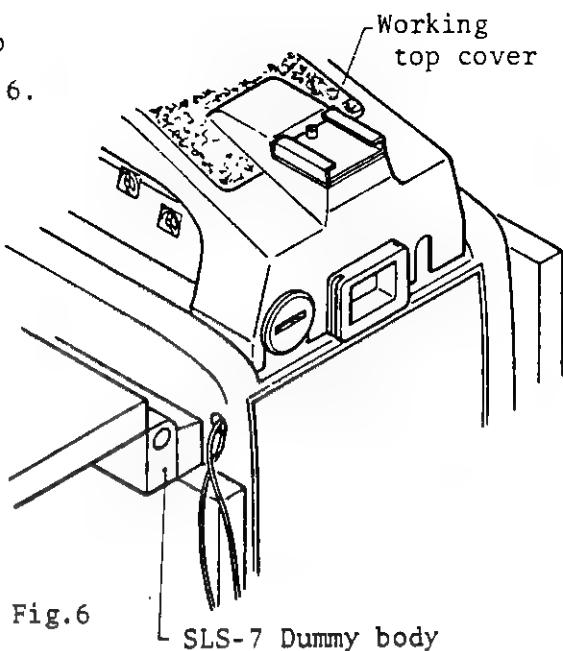


Fig.6

SLS-7 Dummy body

#### 3-2 Check and adjustment exposure value

##### A. At EV11

- 1) Check  
The meter needle should be in center or within  $\pm 1$  step from zero point.

EV	ASA	F.NO	Shutter speed	Meter needle	Adjustment
11	100	8	1/30	+/-	RVV
15			1/500		
7			1/2	-	RVV and RDV

##### 2) Adjustment

Adjustment is made by RVV variable resistor.

Fig.7

##### B. At EV15 and EV7

###### 1) Check

Check the finder at EV15 and EV7 as referring to Fig. 7.  
The meter needle should be in center or within  $\pm 1$  step.

###### 2) Adjustment

- a. Primarily adjust it by the RVV variable resistor.
- b. Next do it by RDV variable resistor.
- c. Adjust it again by repeating above step a and b.

##### C. Check and adjust it at EV11, 15 and 7 again.

### 3-3 Check and adjustment of one step change of exposure meter needle

#### A. Check

##### 1) By turning shutter speed dial:

Turn the shutter speed dial 1/30 sec. to 1/125 sec. and 1/30 sec. to 1/8 sec. one step by one step.

##### 2) By turning aperture ring:

With EV11, ASA 100 and shutter speed 1/30 sec. turn aperture ring aperture 8 to 4 and 8 to 16 one step by one step.

In above steps 1) and 2), the meter needle should change in one step (one EV) or must change within 0.5 EV to 1.5 EV limit.

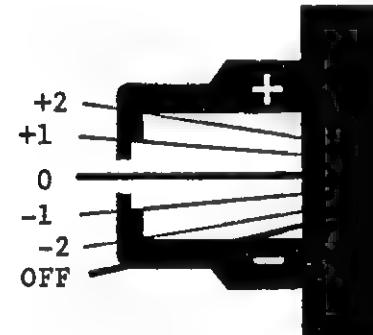


Fig. 8

#### B. Adjustment

When the meter needle moving is out of the limit or not equal to plus side and minus side, adjust it by RMV variable resistor.

Note: When the adjusting is impossible by the RMV variable resistor, it can be possible to adjust by changing R-6 resistor.

Limit of resistor  $\Omega$ :

R6 ..... 1.2K $\Omega$  to 3K $\Omega$

R11 ..... 2.2K $\Omega$ .

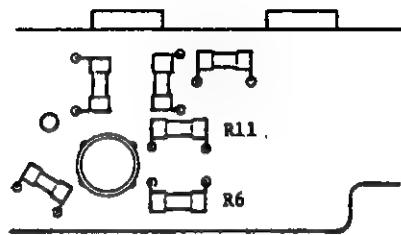


Fig. 9

Five different resistors for R-6 which are 1.2K $\Omega$ , 1.6K $\Omega$ , 2.2K $\Omega$ , 2.7K $\Omega$  and 3.5K $\Omega$  are provided for repair.

For example:

When changing R6 resistor 2.2 K $\Omega$  to 1.6K $\Omega$ , adjusting range by the RMV will widen 2 EV more.

When decreasing the resistor value, the meter needle will move to minus side more.

When adjusting it by the RMV, it must be necessary to check and adjust it again from the step 1-2.

#### 3-4 Both resistors RSV . RPV

Both PSV and RPV variable resistors are for CdS.

As the two resistors have been already adjusted in the factory, please do not touch them, as well as spare parts SLS67631 P.c. plate which are supplied from us.

When changing CdS-unit only or SLS67631 P.c. plate, adjustment can be possible with the two other resistors RVV and RDV.

# **REPAIR MANUAL**

FOR  
P.D. Prism Finder

The confirmation before the Adjustment  
or Repair of the troubled P.D Prism Finder

A) Camera Body

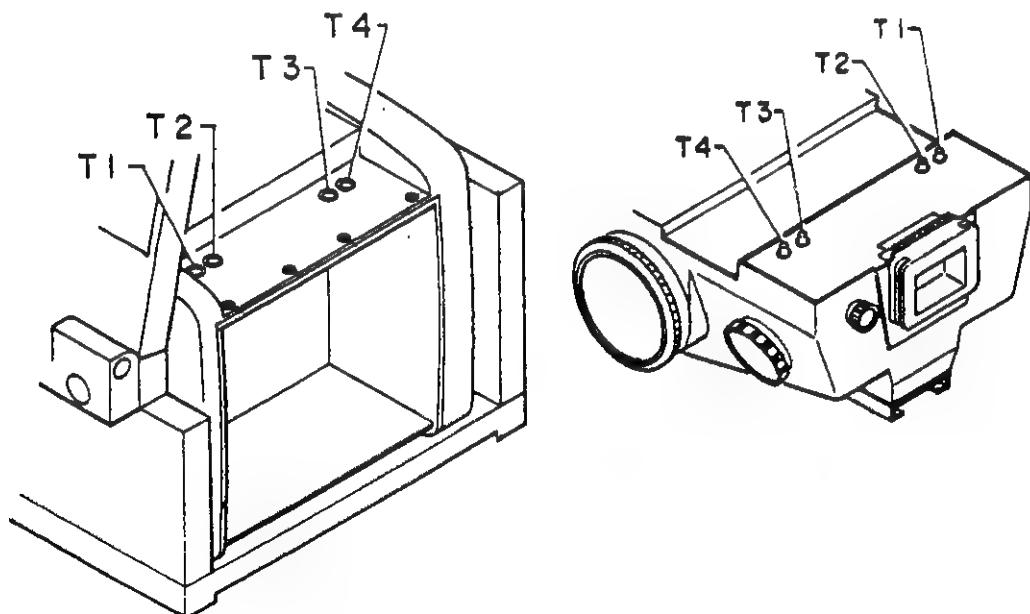
1. Set the Shutter speed dial at mark 0, check the voltage between T2 (red clip) and T4 (black clip) by the Digital multimeter. If under 6 volts, Camera or Battery is defective.
2. Is each Shutter speed correct, 8s through 1/500 or 1/1000 ?
3. Clean the dusts or corosions if any on the contacts T1, T2, T3, and T4.

B) P.D Finder

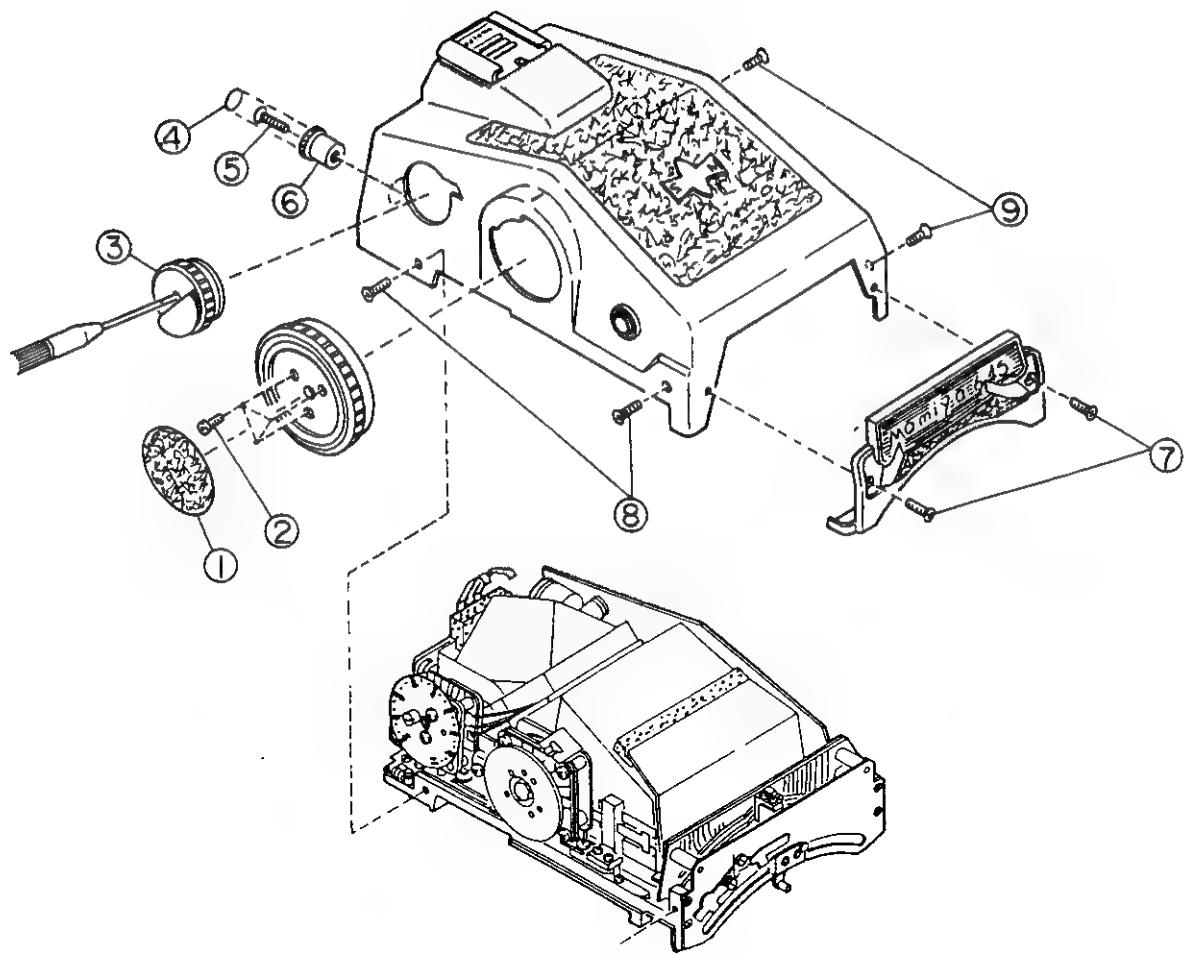
1. Clean the dusts or corosions if any on the contacts T1, T2, T3, and T4.

C) Attachment

1. Is the P.D Finder fitted on the body ?
2. Is the Aperture ring coupling pin of the P.D Finder seated in the meter coupler of the lens ?  
Does it move smoothly ?
3. Is A.M changing lever of the Lens at A. surely ?



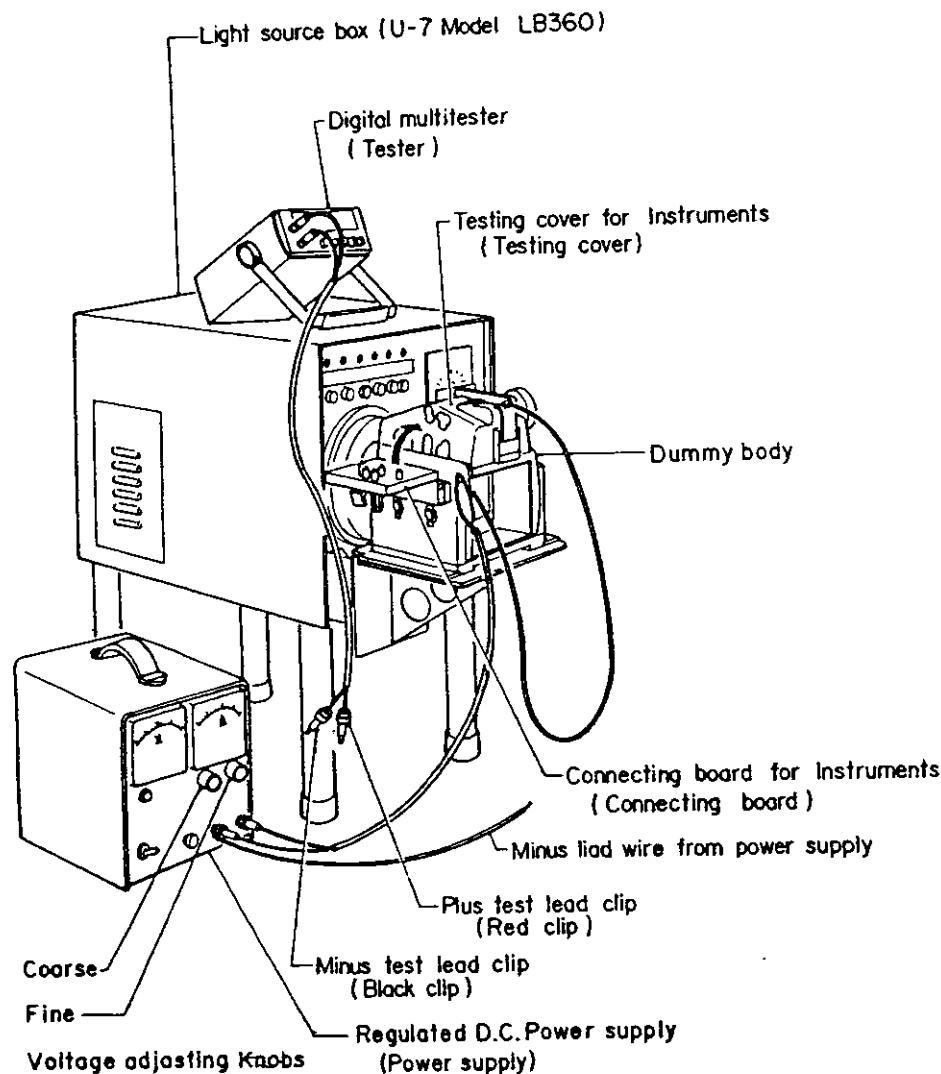
Removing and assembling of the Top cover (SLS71161)



- (1) Removing of the Top cover (SLS71161) the Arabic numeral in a circle indicates the procedure.
- (2) Attach Top cover in the reverse order.

## Adjustment Procedure of P.D Prism Finder

Room temperature should be 20° to 25°C (68° to 77°F)



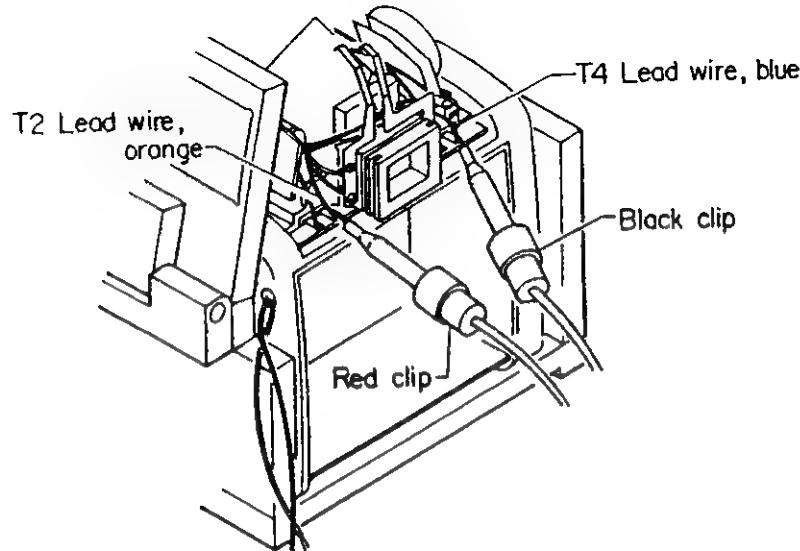
### 1. Setting the Measuring Instruments

- 1-1 Put on the power switches of the Light source box, Regulated D.C. Power supply and Digital multimeter. Push D.C. V button on the Digital multimeter.

NOTE: Keep the Clips free when the Switch of Digital multimeter put on.

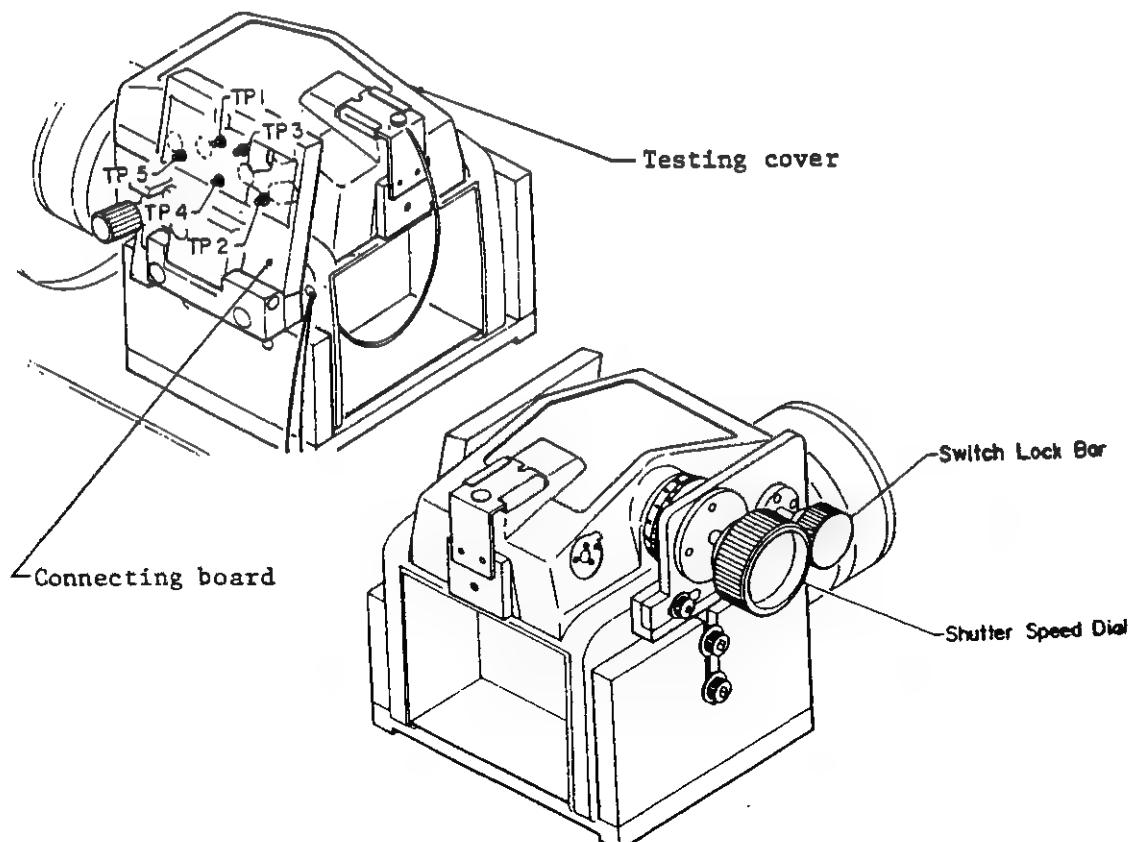
- 1-2 Detach the Top cover of the P.D Prism Finder and set it to the dummy body.

1-3 Connect the red clip to the contact T2 and the black clip to the contact T4, then adjust the voltage adjusting knob of the Power supply so that the reading of the Tester shows 5.99 to 6.01 volts.



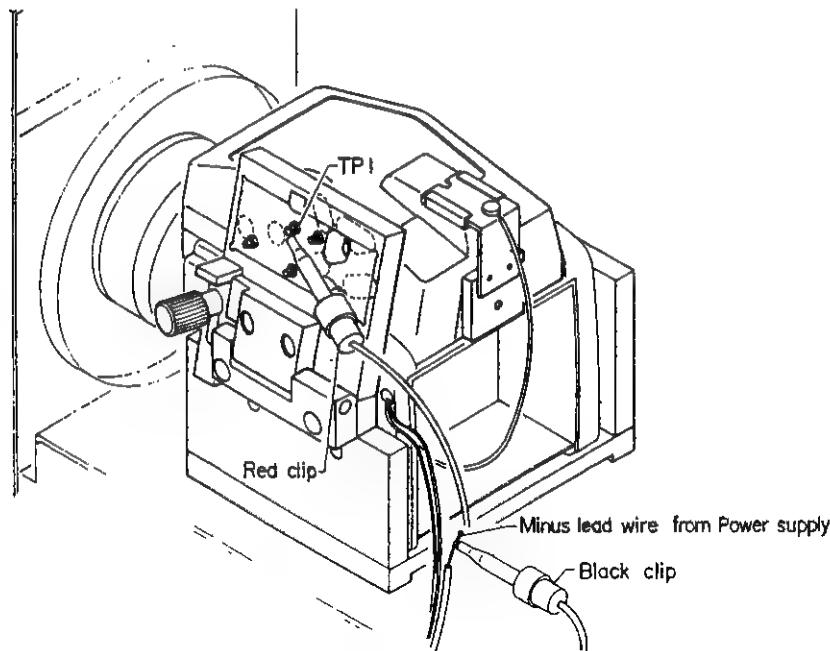
1-4 Set the Testing cover to the P.D Finder and turn the connecting board beside them.

1-5 Push the Switch lock bar and fasten the Shutter speed dial to the shutter speed disk.



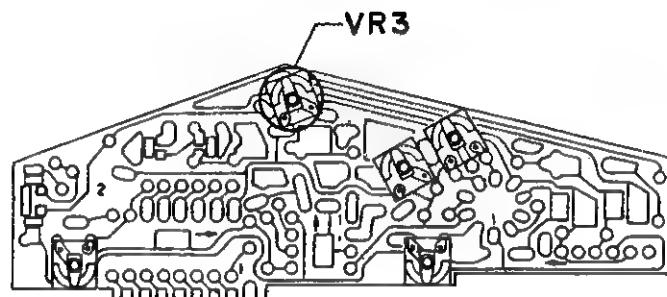
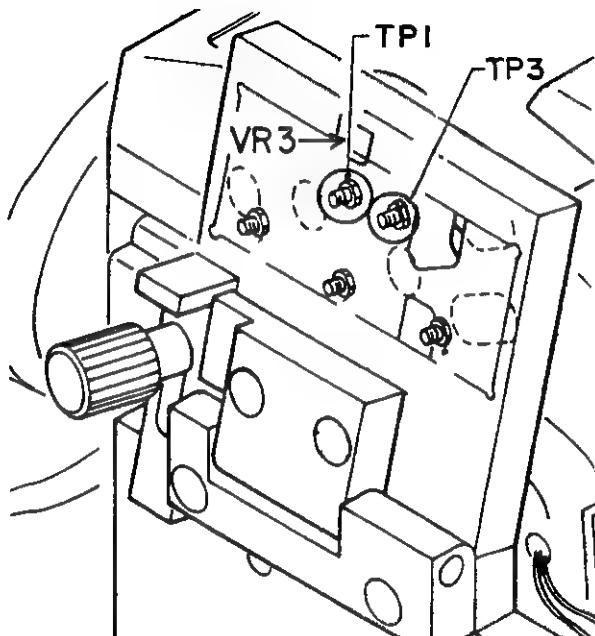
## 2. Adjustment procedure

2-1 Connect the red clip to the TP1, and the black clip to the minus Lead wire from Power supply, then confirm the reading of the Tester shows 1.23 to 1.45 volts.



(If not, refer to the Trouble shooting No.1)

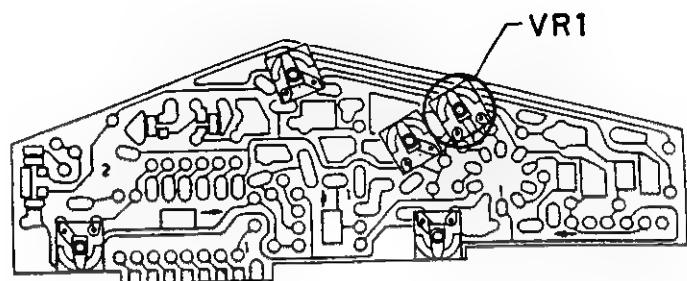
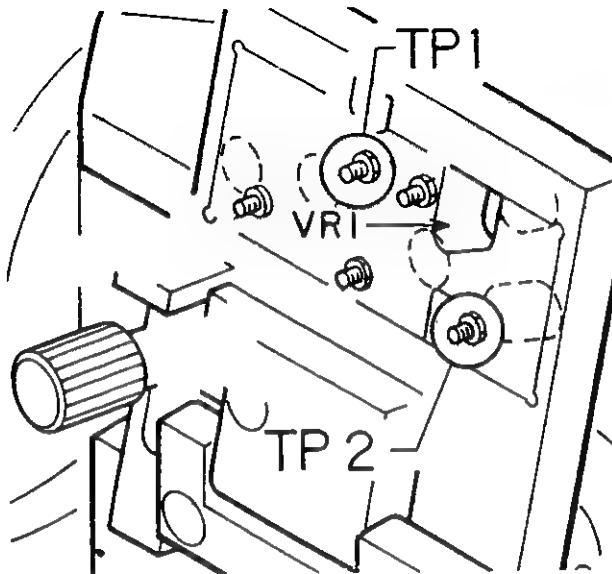
2-2 Connect the red clip to TP3 and black clip to TP1, Adjust the Variable resistor VR3 with the Adjusting driver (SLS-20) in order that the reading of the Tester shows -0.233 to -0.235 volts for 1/1000 P.D FinderS or -1.098 to -1.102 volts for 1/500 P.D Finder.



(If not, refer to the Trouble shooting No.2)

2-3 Set the Light source box to at LV 11.

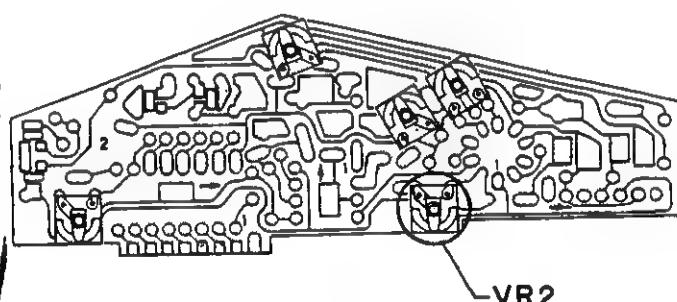
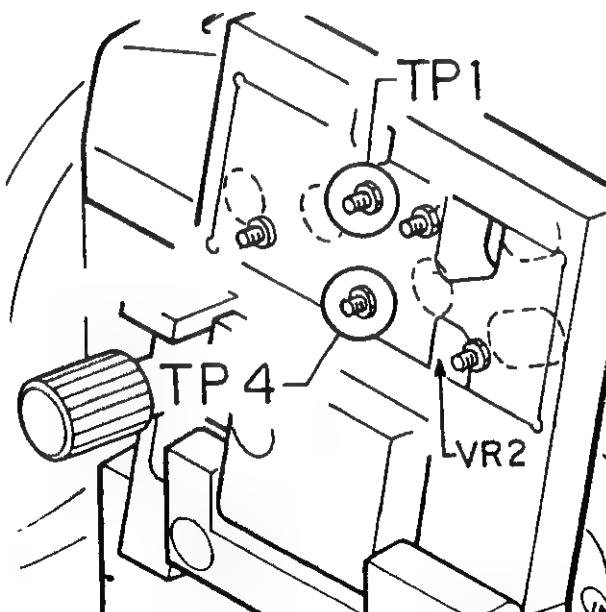
Connect the red clip to TP2, the black clip to TP1,  
then adjust VR1 so that the reading shows -0.360 to  
-0.364 volts.



(If not, refer to the Trouble shooting No.3).

2-4 Connect the red clip to TP4 and the black clip to TP1.

Adjust VR2 so that the difference of the readings at  
LV5 and LV11 is 0.107 to 0.109 volts.



NOTE: When you adjust VR2, both readings change, so repeat  
this procedure.

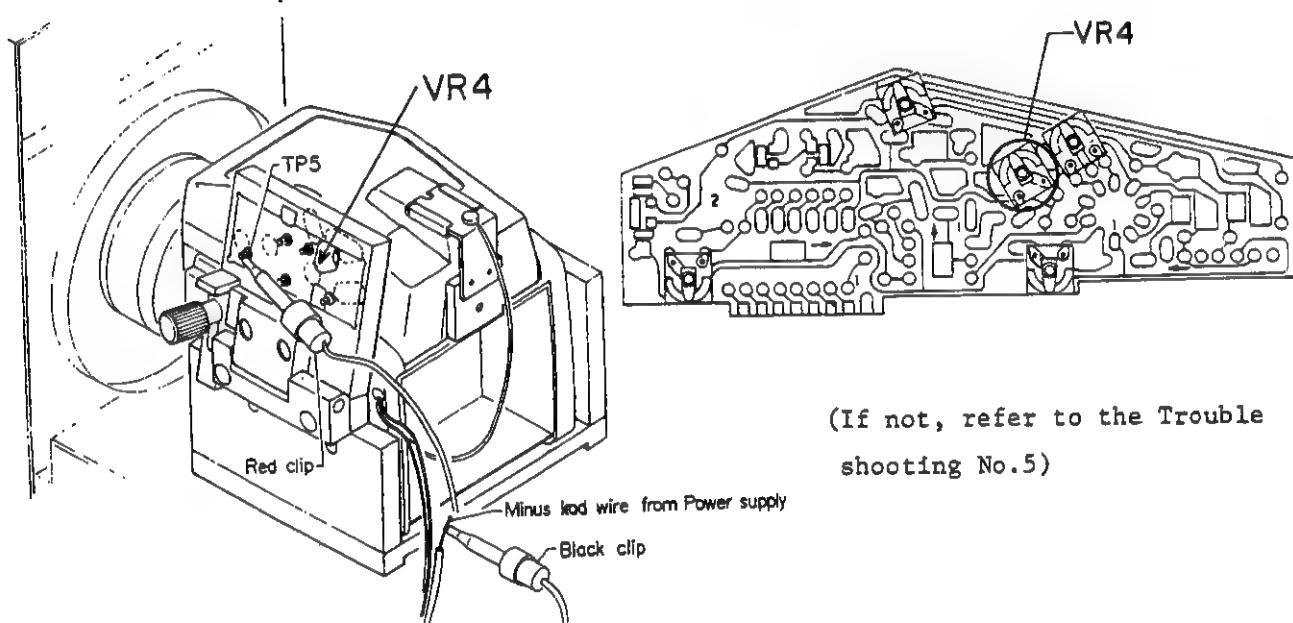
(If not, refer to the Trouble shooting No.4).

2-5 Connect the red clip to TP5 and the black clip to the minus lead wire from the Power supply.

Set to the following values

LV	11
Shutter speed	1/30
ASA speed	100
Lens aperture	f 8

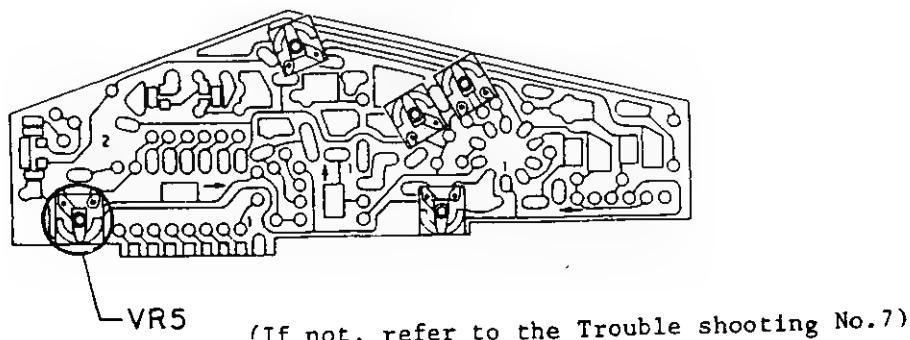
Adjust the VR4 so that the reading shows 2.98 to 3.02 volts.



2-6 Taking the eyepiece cap off and check the lighting of the LED at the following combinations

L V	Shutter speed	A S A
5	2 s	100
7	1/2	100
11	1/30	100
15	1/500	100

Adjust the VR5 so that only the green LED lights at f8 setting and under or over red LED should lights at f8 +0.5 step or f8 -0.5 step respectively.



- 2-7 Confirm the change of the LED lighting according to the any change from the standard Setting, LV11, ASA100, Lens aperture f8, Shutter speed 1/30.  
(If not, refer to the Trouble shooting No.6).  
It is permissible the two LEDs come at a time, if the one is brighter than the other.
- 2-8 Release the Switch lock bar and put off the main switch.  
Confirm that the LED Light goes out within 11 to 19 seconds after that.  
(If not, refer to the Trouble shooting No.8).
- 2-9 Unfasten the Speed dial link cover and remove the Connecting board and Testing cover, detach the P.D Finder from dummy body.  
Put off the Power switch of the Power supply and the Tester.
- 2-10 Take off the dummy body from the unit and check the working of the fixed set.

## T R O U B L E   S H O O T I N G

### NOTE:

When you measure the voltage between the Printed circuit board lands and check the disconnection or short circuit of the lead wire, use the Digital multimeter.

When you replace the Printed circuit board, you should repeat Adjustment procedure 2-1 through 2-10.

No.1

Measure the voltage of the Printed circuit board land between ⑧ and ⑫ ----- 6 volts

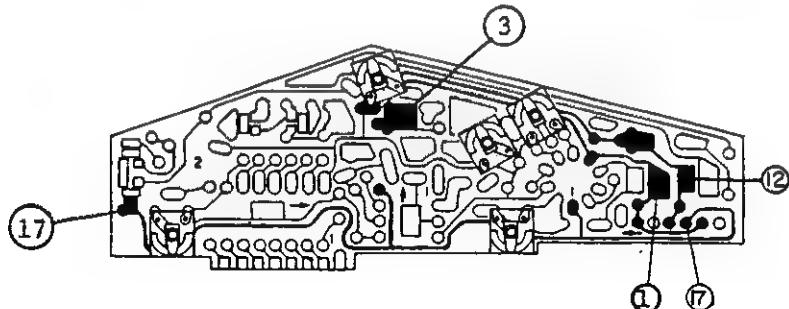
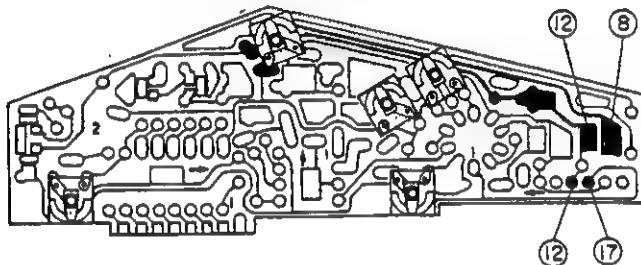
→ Disconnection or Imperfect soldering of the Battery lead wires(SLS73711, SLS73721)

Measure the voltage of the Printed circuit board land between ⑯ and ⑫ ----- about 6 volts

→ Disconnection or Imperfect soldering of the Main switch lead wires(SLS73731, SLS73741)

Short circuit of the Printed circuit board between ① or ③ and ⑯, ③ and ⑫

If repairing is impossible, replace Printed circuit board.



No.2

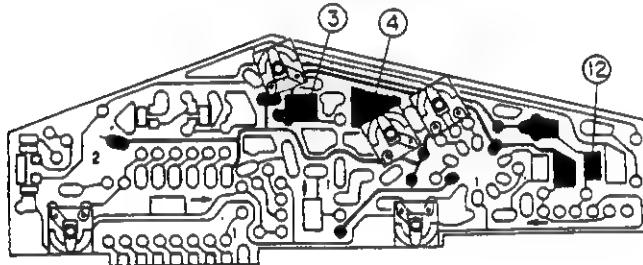
Disconnection or Imperfect soldering.

- \* Lead wire A and C (SLS73871,SLS73891) of Shutter speed resistor assy.(SLT72501 or SLS72501)
- \* Lead wire A and C (SLS73911,SLS73931) of Film speed resistor assy.(SLT72801 or SLS72801)
- \* Lead wire A and C (SLS73841,SLS73861) of Aperture coupling assy.(SLT71901 or SLS71901)

Short circuit of Printed circuit board land between

(3) and (4) , (4) and (12) .

If repairing is impossible, replace Printed circuit board.



No.3

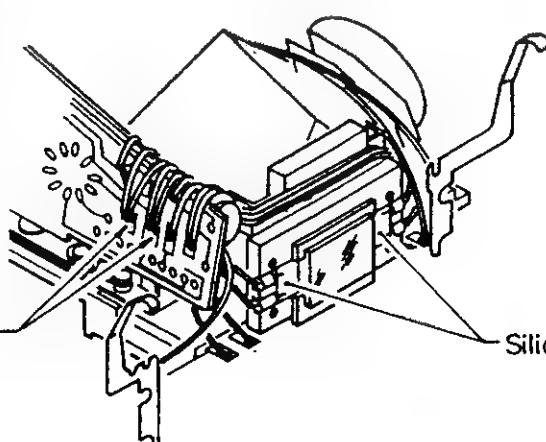
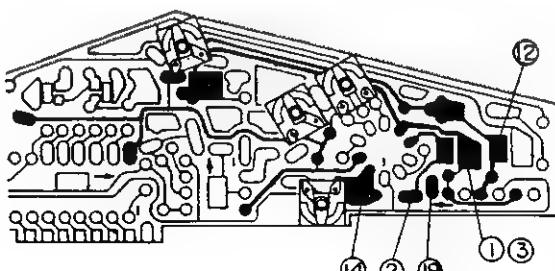
Disconnection or Imperfect soldering of the Silicon photo diode (SLS7247T1) Lead wire (SLS73811,SLS73791, SLS73821 and SLS20781).

Broken Silicon photo diode (SLS7247T1).

Short circuit of the Printed circuit board land between  
(3) and (12) , (2) and (19) , (12) and (14) .

(1) and (3)

If repairing is impossible, replace Printed circuit board.



Disconnection or  
Imperfect soldering

Silicon photo diode  
(SLS 7247T1)

No. 4

2-3 Confirm the adjustment procedure.

When you adjust the Light source box LV11 about -0.362 volts. It changes 0.018 volts per 1 EV so that you change LV5 reading becomes about -0.254 volts.

If repairing impossible, replace Printed circuit board.

No. 5

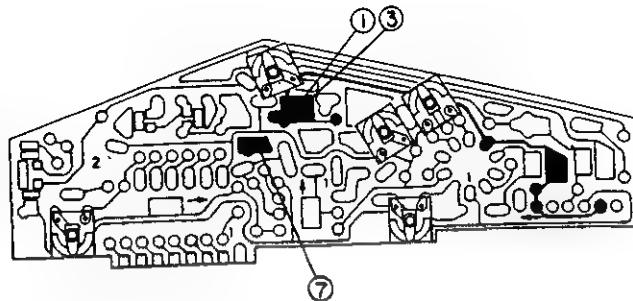
Shutter speed resistor assy.(SLT72501 or SLS72501).

Disconnection of the shutter speed brush.

Broken shutter speed Printed circuit board.

Disconnection or Imperfect soldering of the shutter speed Printed circuit board Lead wire B (SLS73881)

Confirm that the voltage of the Printed circuit board land between ① or ③ and ⑦ is 0.144 volts at 1/30 and is changes about 0.018 volts per 1 EV.(TV) When you move the shutter speed dial.



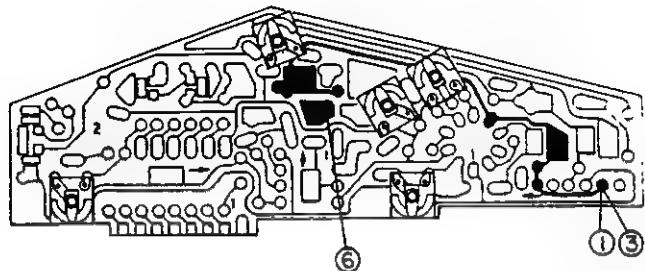
Film speed resistor assy.(SLS72801).

Disconnection of the Film speed brush.

Broken Film speed Printed circuit board(SLS72861).

Disconnection or Imperfect soldering of the Film speed Printed circuit board at Lead wire B (SLS73921)

When you set the film speed ASA100, confirm that the voltage of the Printed circuit board land between ① and ⑥ is about 0.108 volts it changes about 0.018 volts per 1 EV.(SV)



Aperture coupling assy. (SLT71901 or SLS71901).

Disconnection of the Aperture coupling bruh.

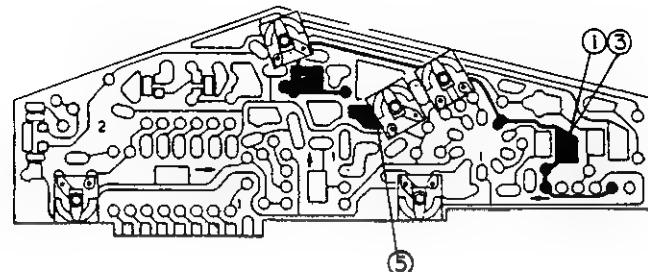
Broken Aperture printed circuit board.

Disconnection or Imperfect soldering of the Film speed printed circuit board Lead wire B (SLS73851).

→ When you set the Lens Aperture f 8,  
confirm that the voltage of the Printed circuit  
board land between ① and ⑤ is about 0.072 volts  
it changes about 0.018 volts per 1 EV.

\* It is not the same rate near f 2.8.

If repairing is impossible, replace Printed circuit board.



No. 6

2- 5 Confirm the change of voltage as adjustment  
procedure.

→ When you change the Shutter speed dial,  
it changes about 0.3 volts per 1 EV.

When you change the Film speed dial,  
it changes about 0.3 volts per 1 EV.

When you change the Aperture ring  
it changes about 0.3 volts per 1 EV.

If repairing is impossible, replace Printed  
circuit board.

No.7

Improper LED.

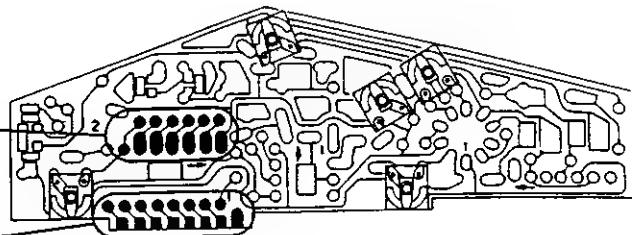
Each LED doesn't illuminate.  
One of them doesn't  
Only the green doesn't

Short circuit or Imperfect soldering of  
the Printed circuit board LED and IC4.

Defective LED.

If repairing is impossible, replace Printed  
circuit board.

Land for IC4.



Land for LED.

No.8

When you push the main switch, confirm  
that the both contacts points contacts  
perfectly.

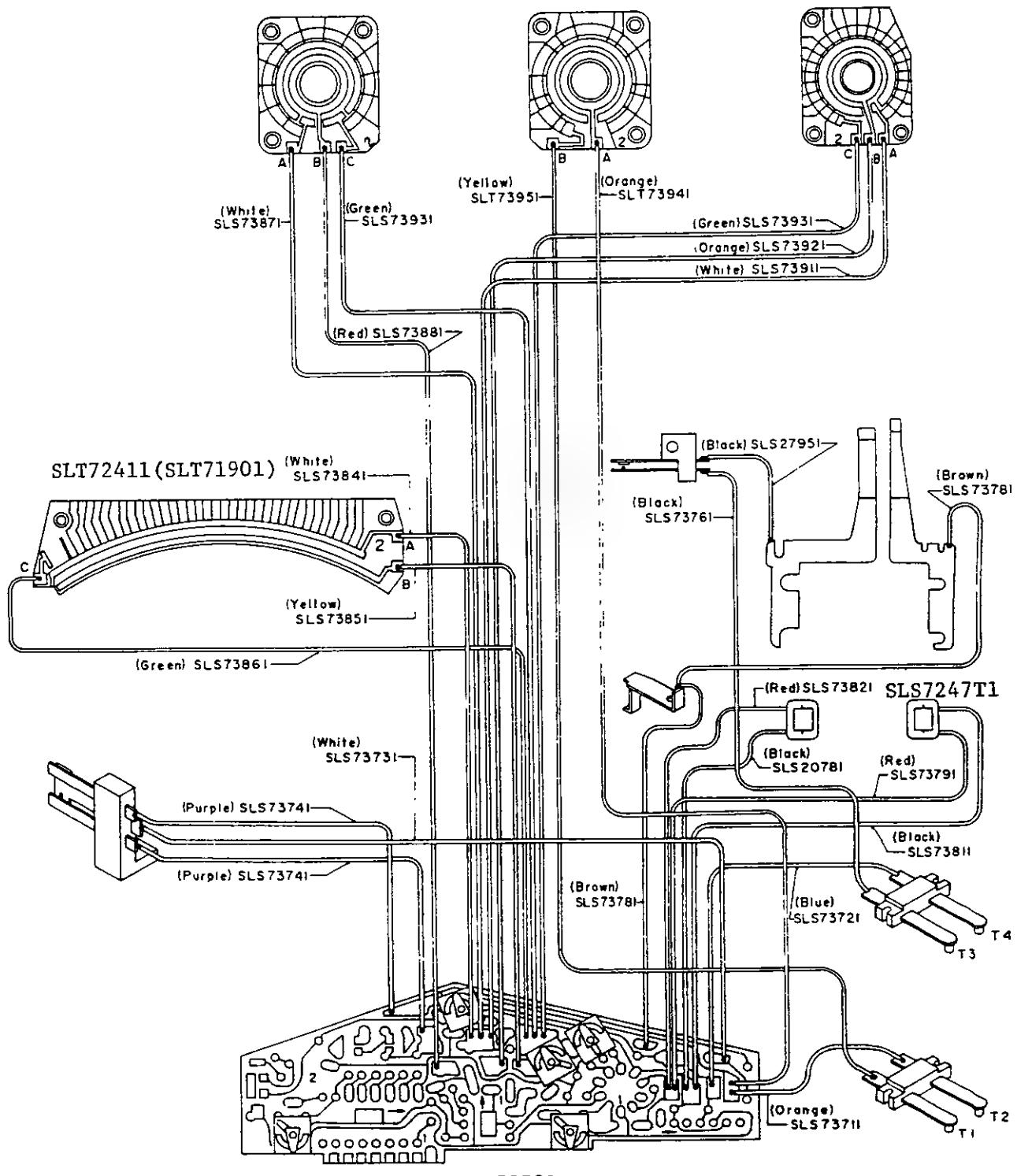
When you push the main switch and  
release it, confirm the LED illuminates  
11 to 19 seconds.

Short circuit of the main switch Printed  
circuit board land between A and B.

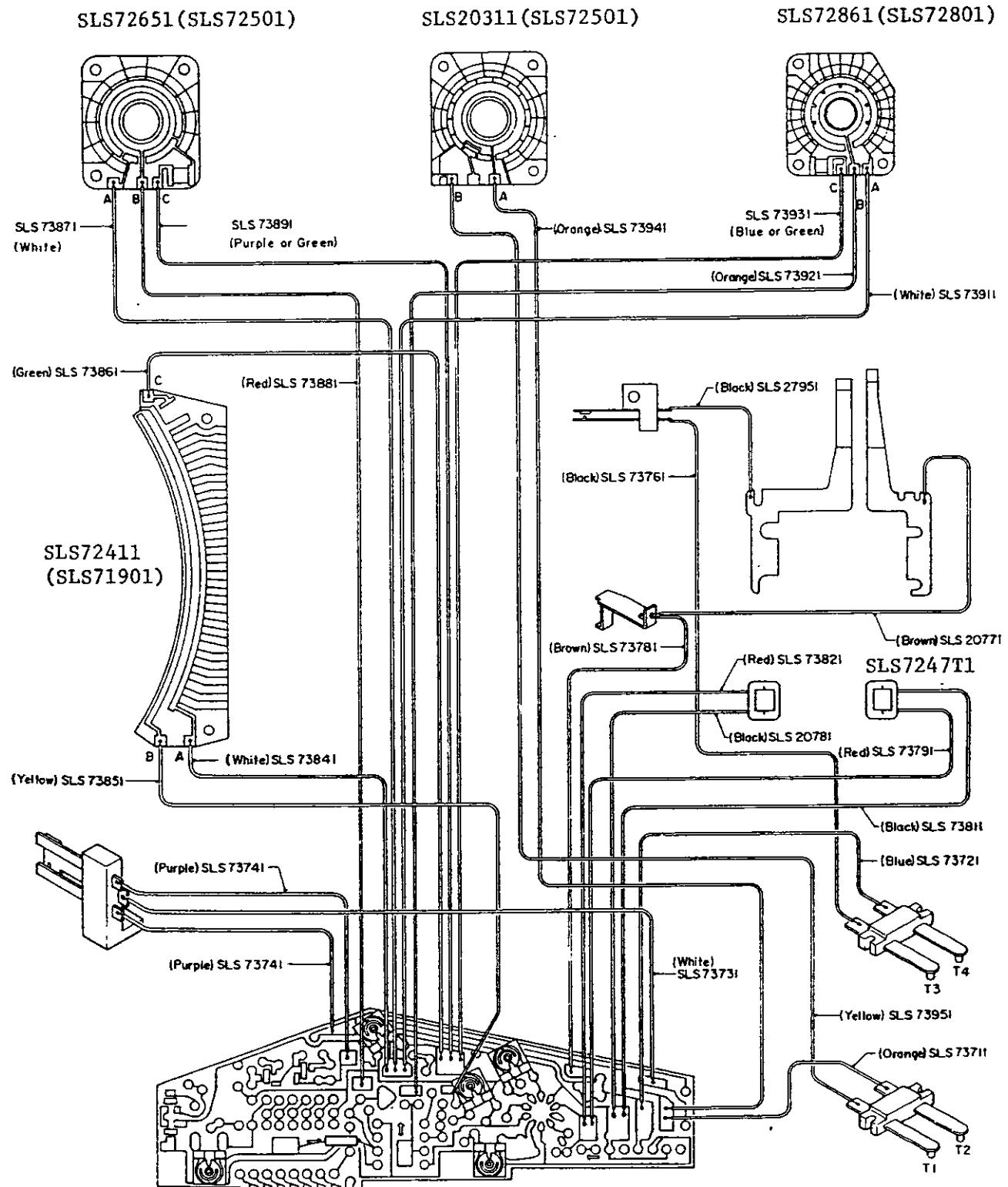
If repairing is impossible, replace Printed  
circuit board.

Electric Circuit Diagram  
for PD Prism Finder S 1/1000

SLT72651(SLT72501) SLT72711(SLT72501) SLT72861(SLT72801)



**Electric Circuit Diagram**  
for PD Prism Finder 1/500



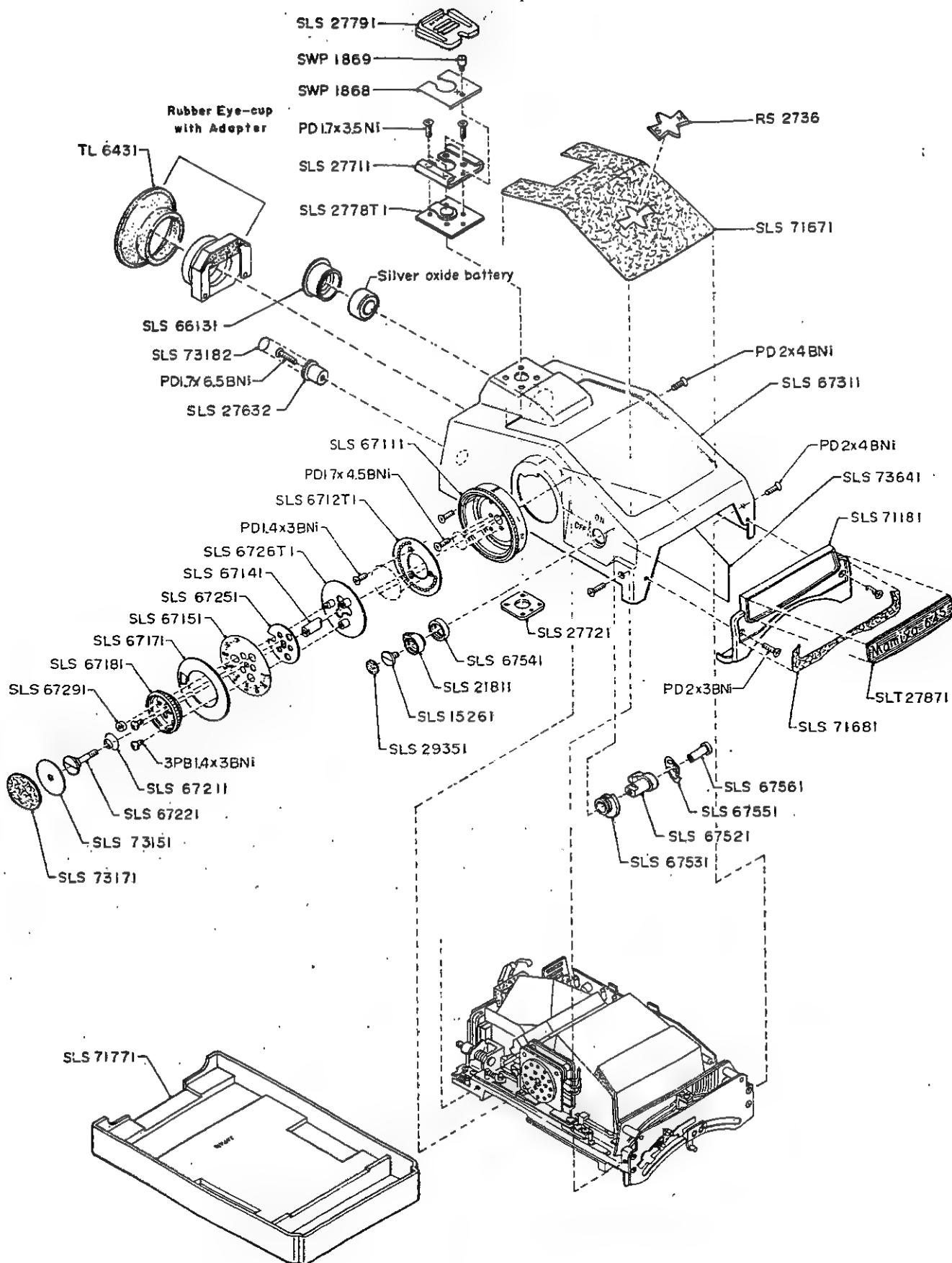
SLS73501

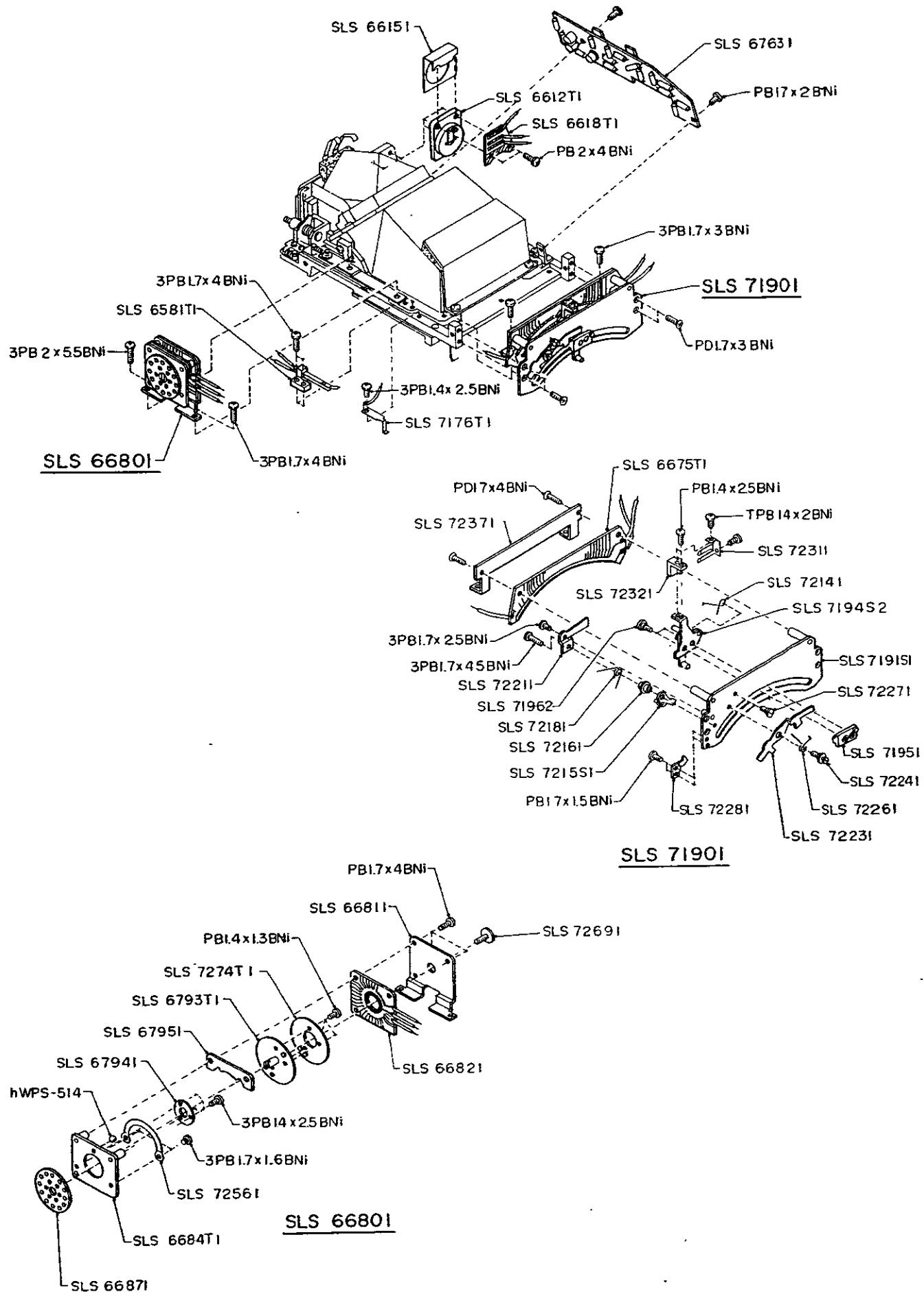
# EXPLDED VIEWS

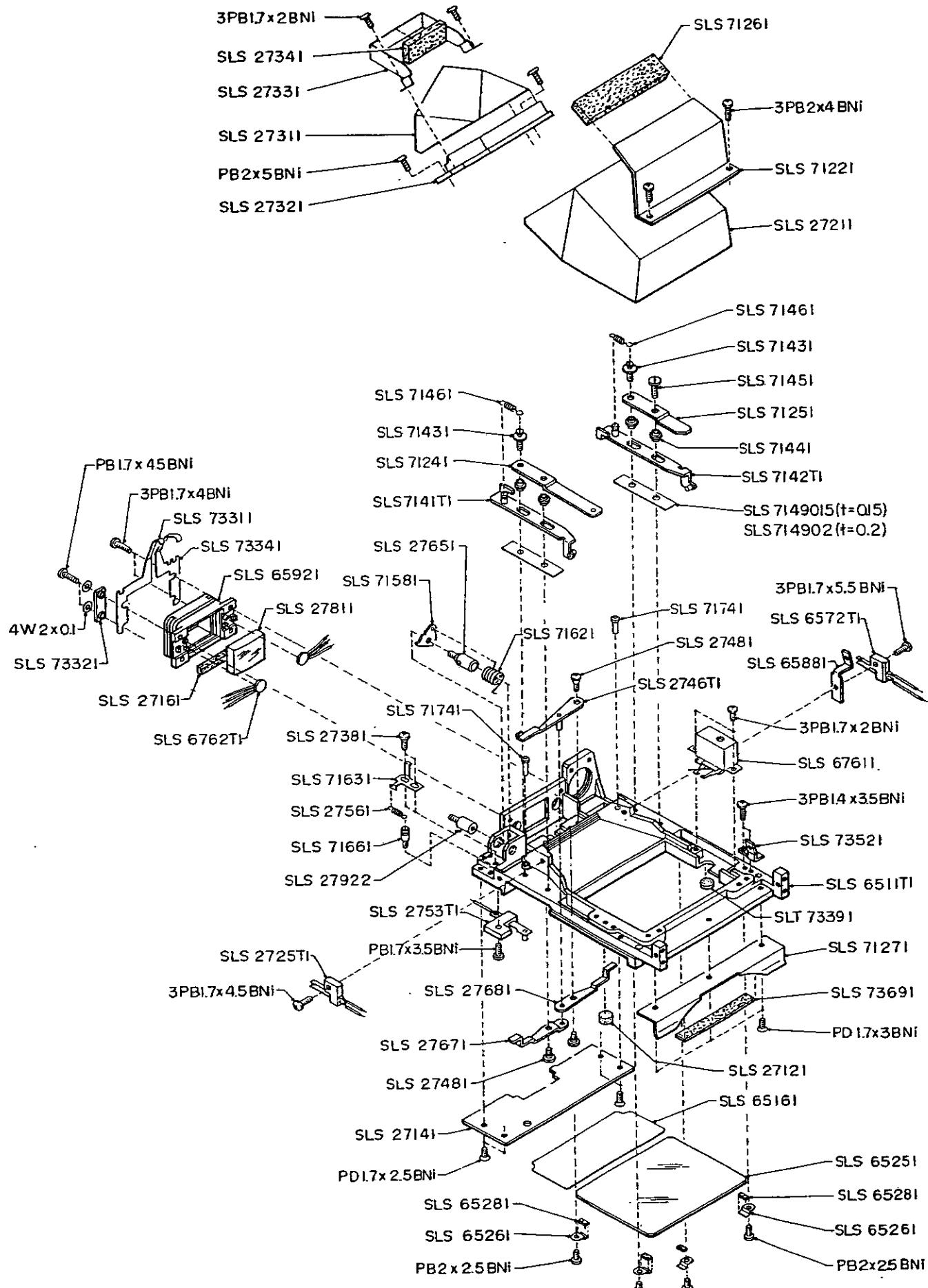
Mamiya  
CAMERA

# CdS Prism Finder

for Mamiya M645 (SLS 6500)

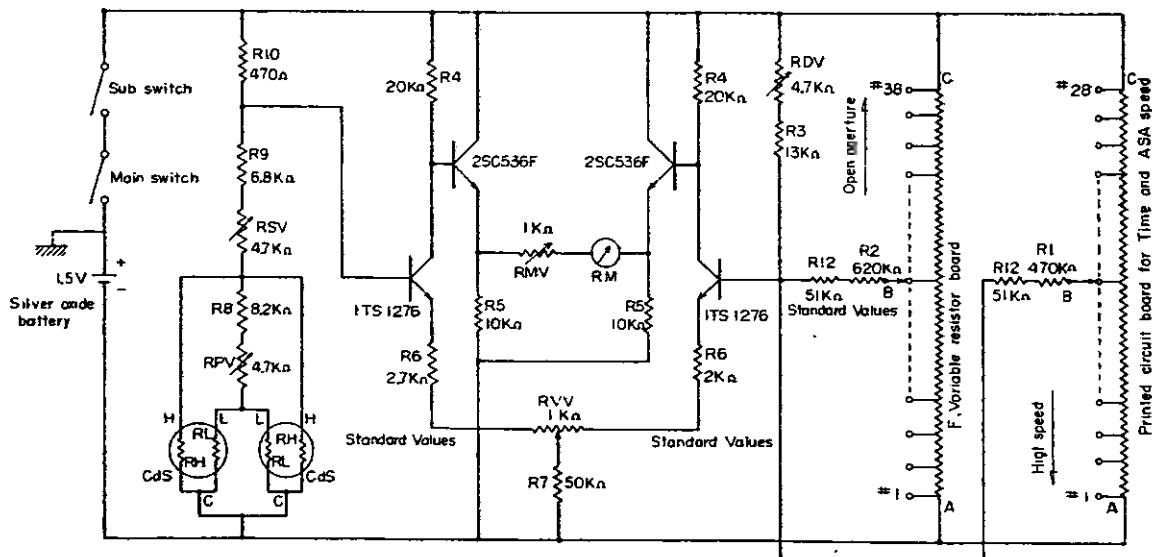
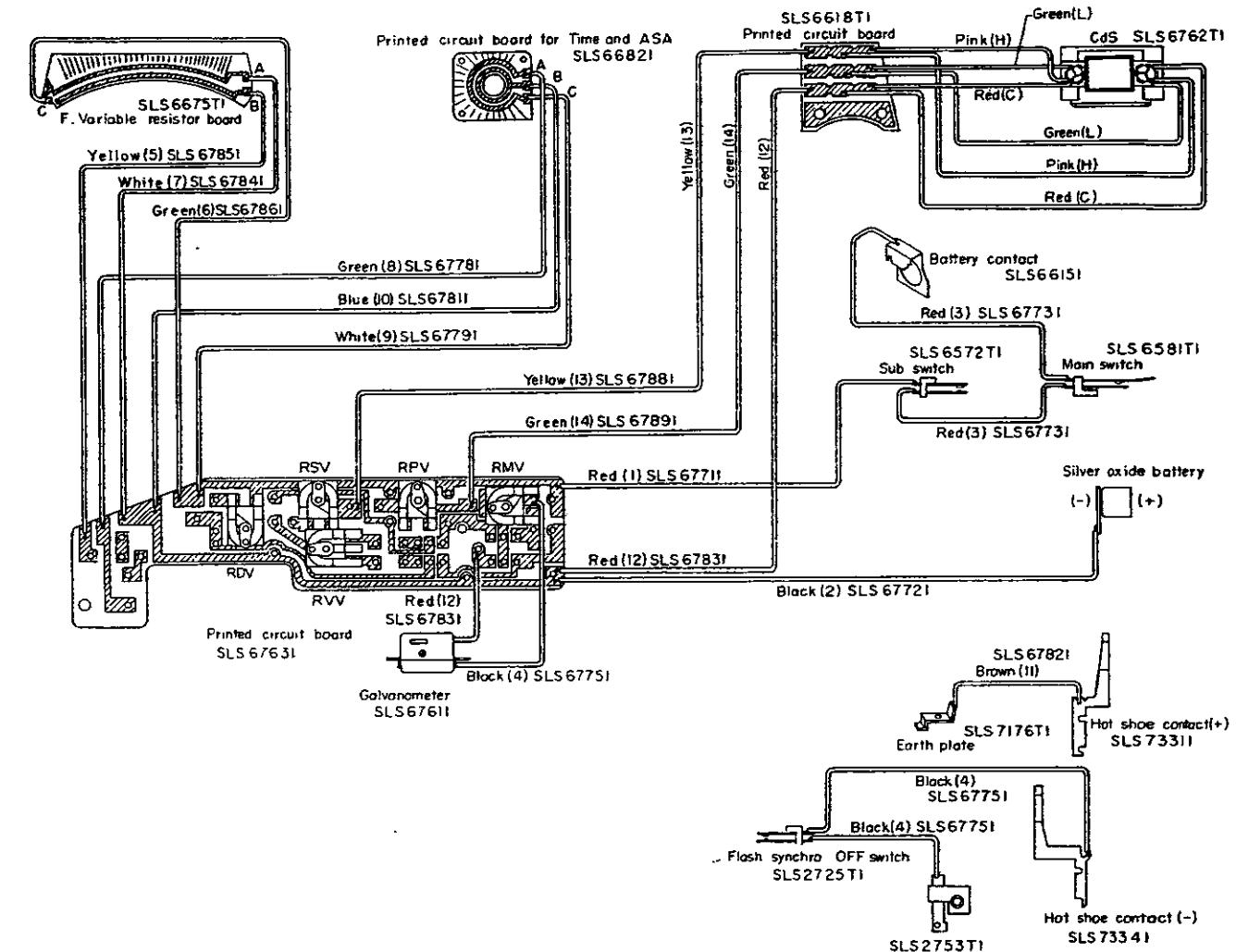






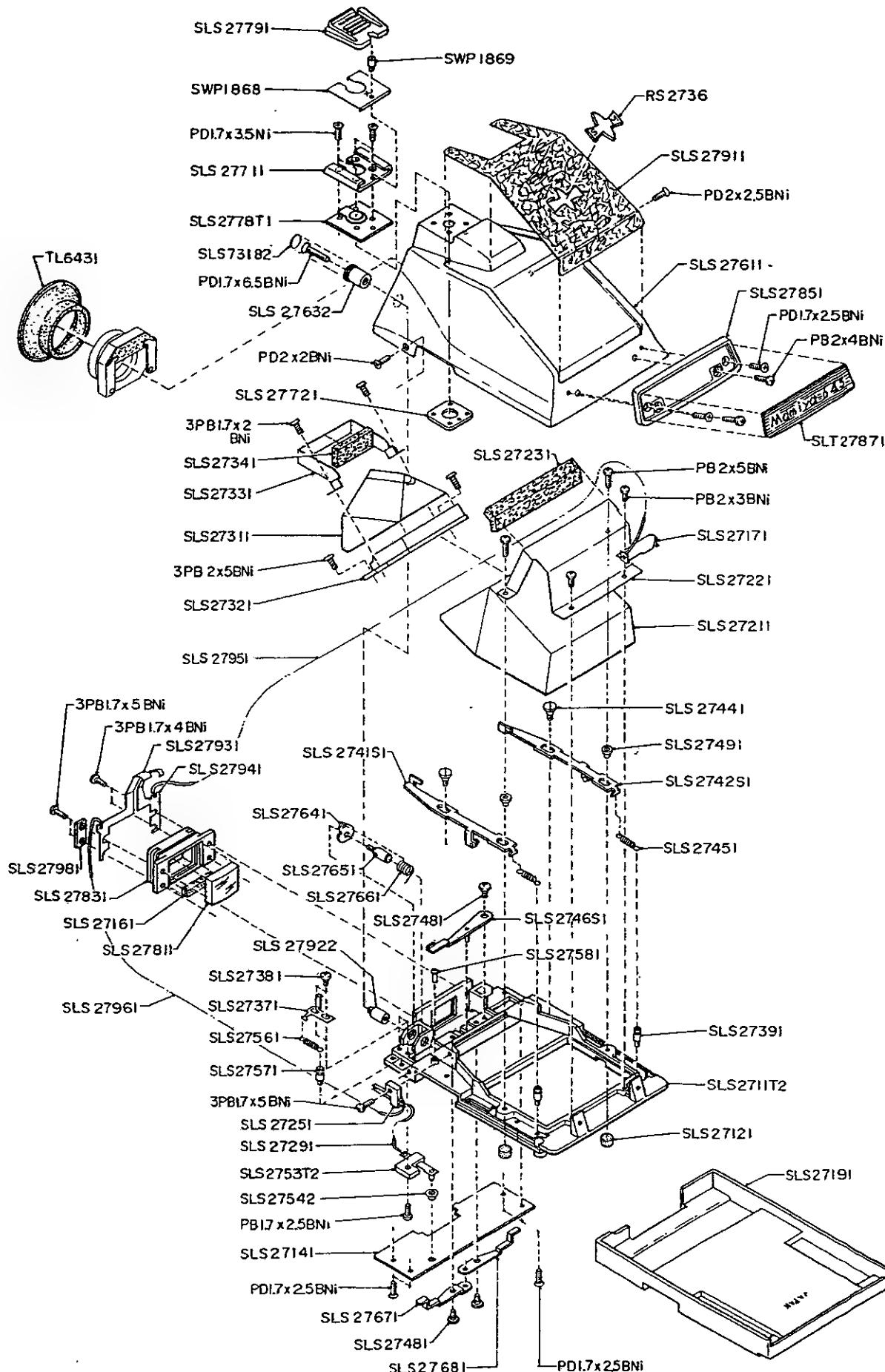
# Electric Circuit Diagram

for CdS Prism Finder



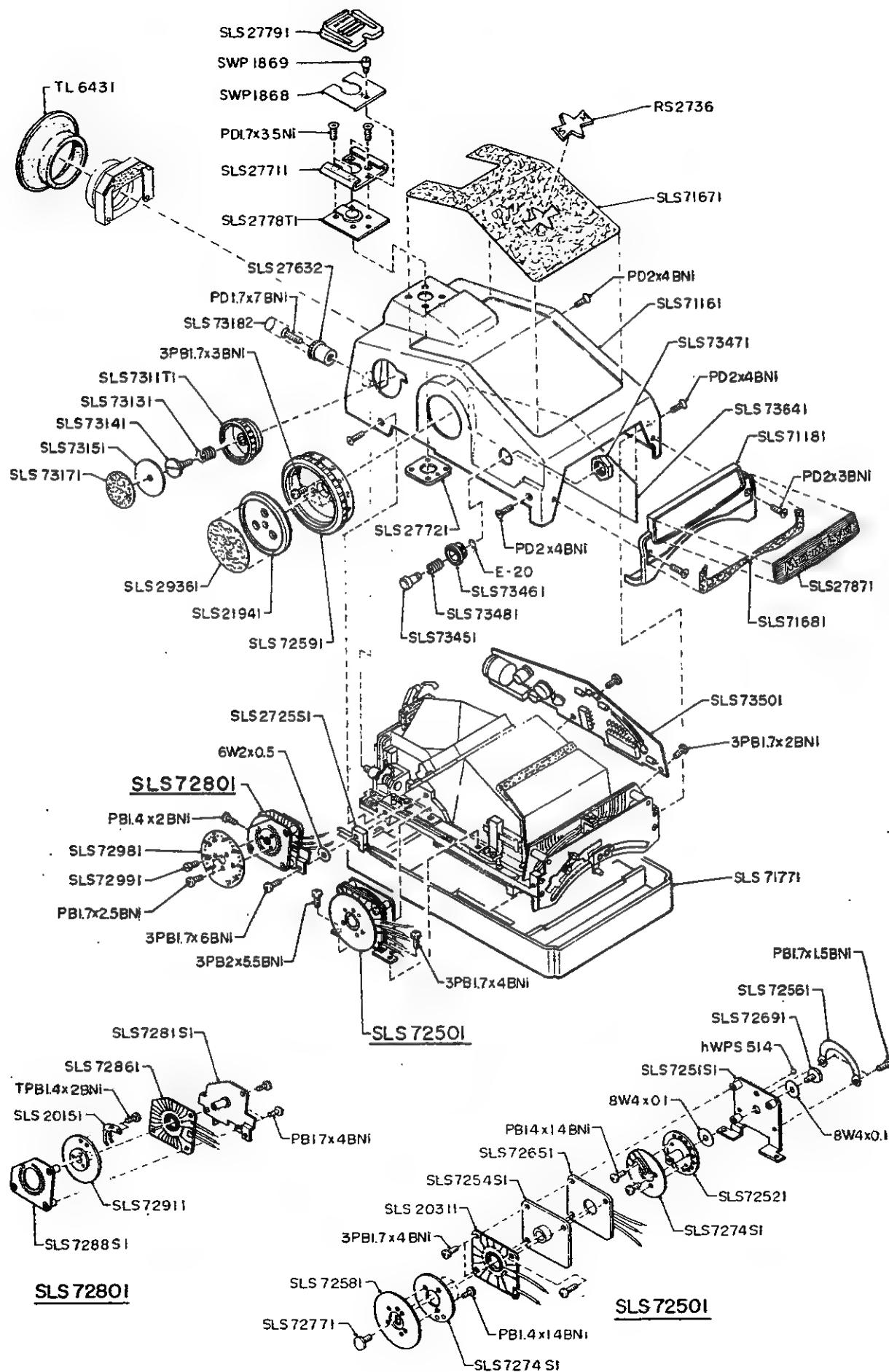
# Prism Finder

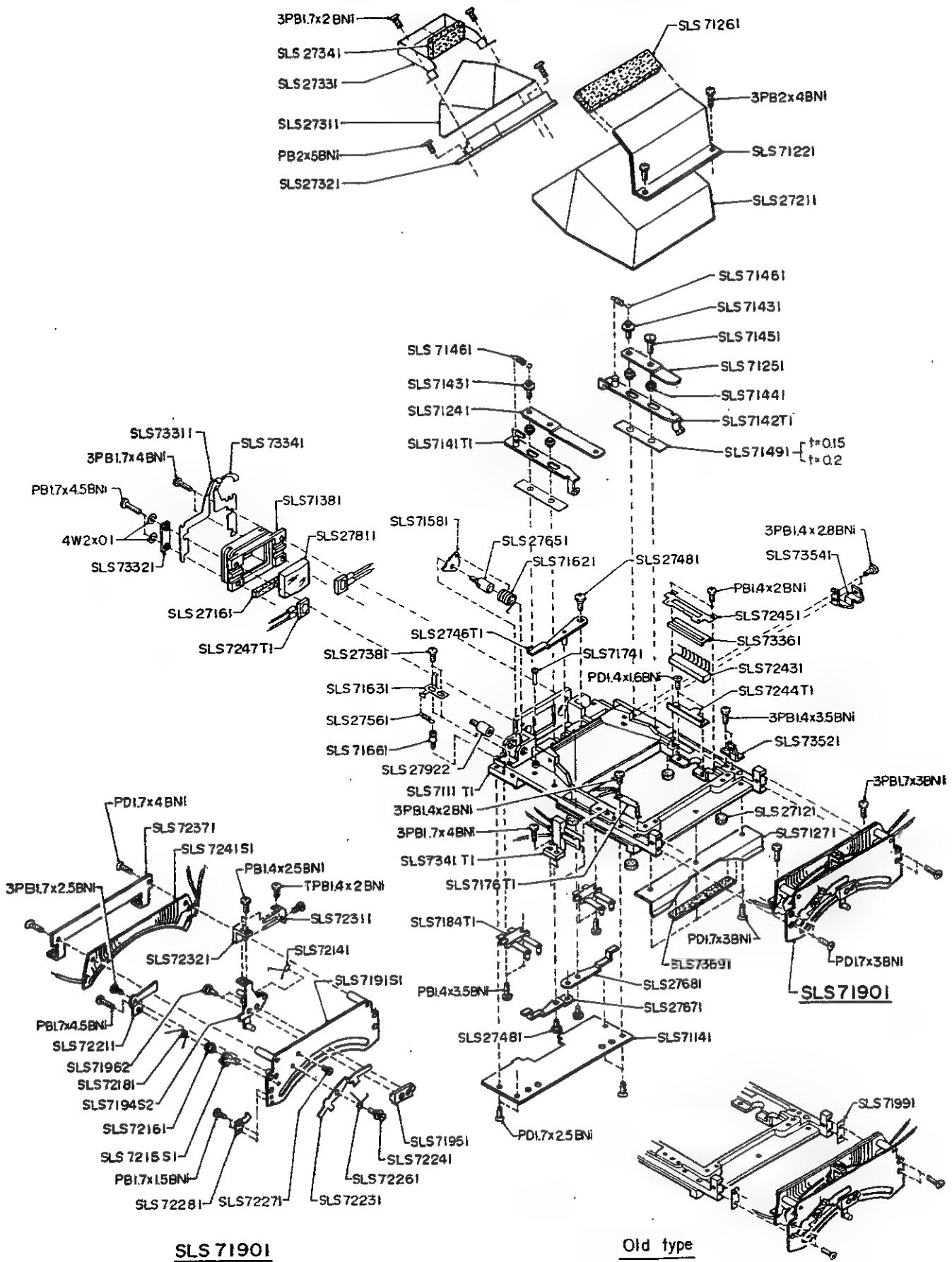
for Mamiya M645 (SLS 2700)



# PD Prism Finder

for Mamiya M645 (SLS 7100)



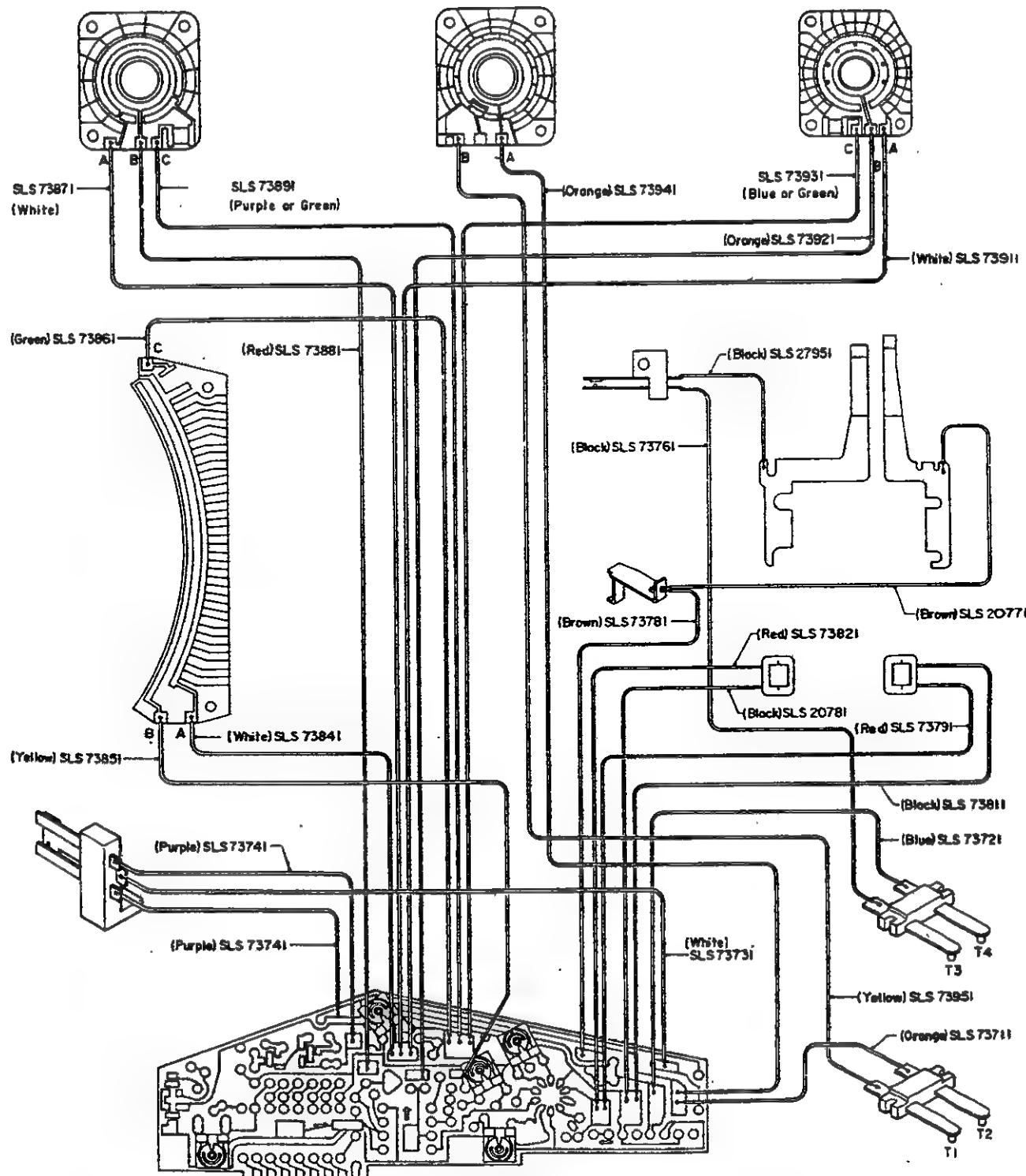


SLS 71901

Old type

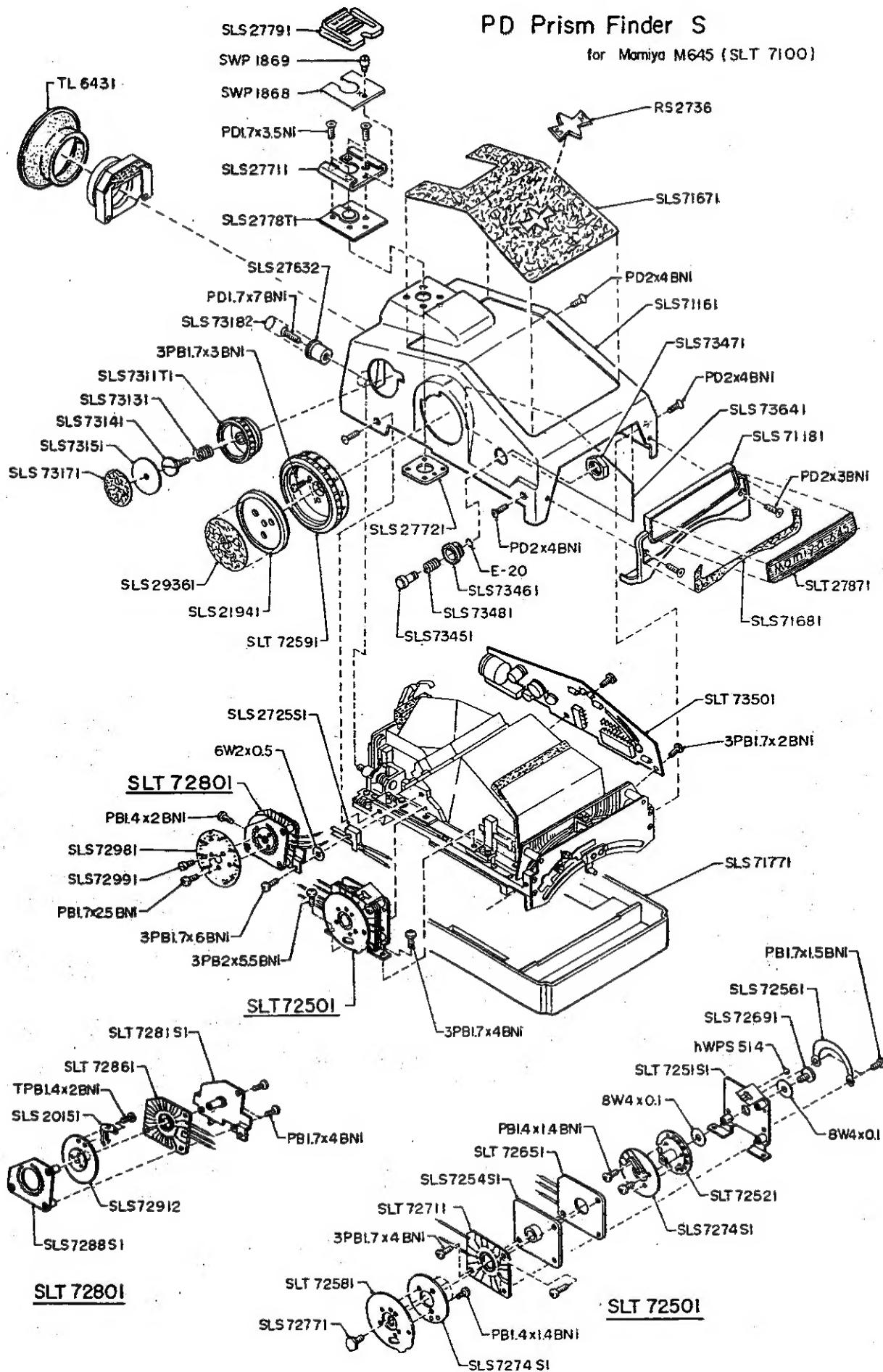
# Electric Circuit Diagram

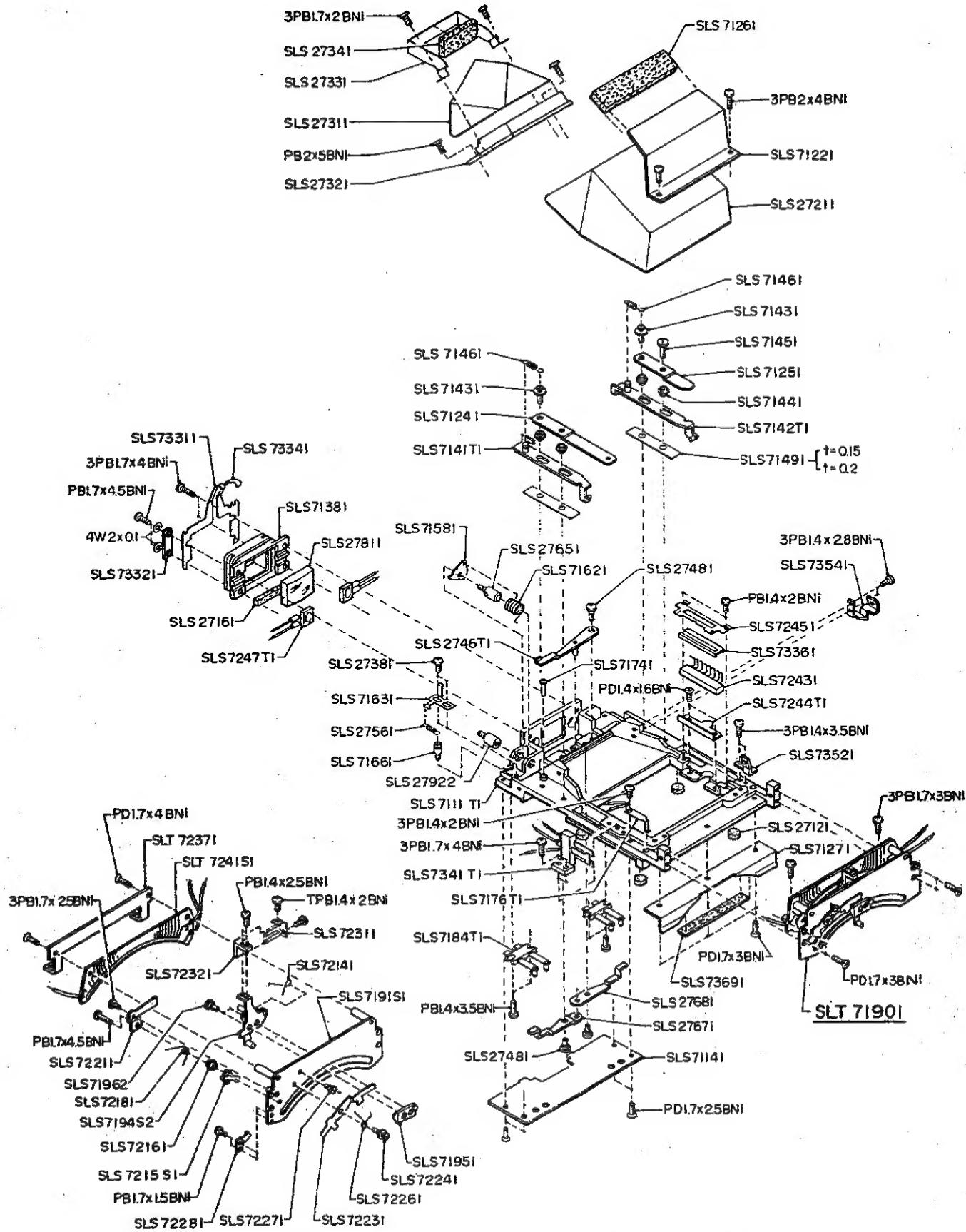
for PD Prism Finder 1/500



# PD Prism Finder S

for Mamiya M645 (SLT 7100)

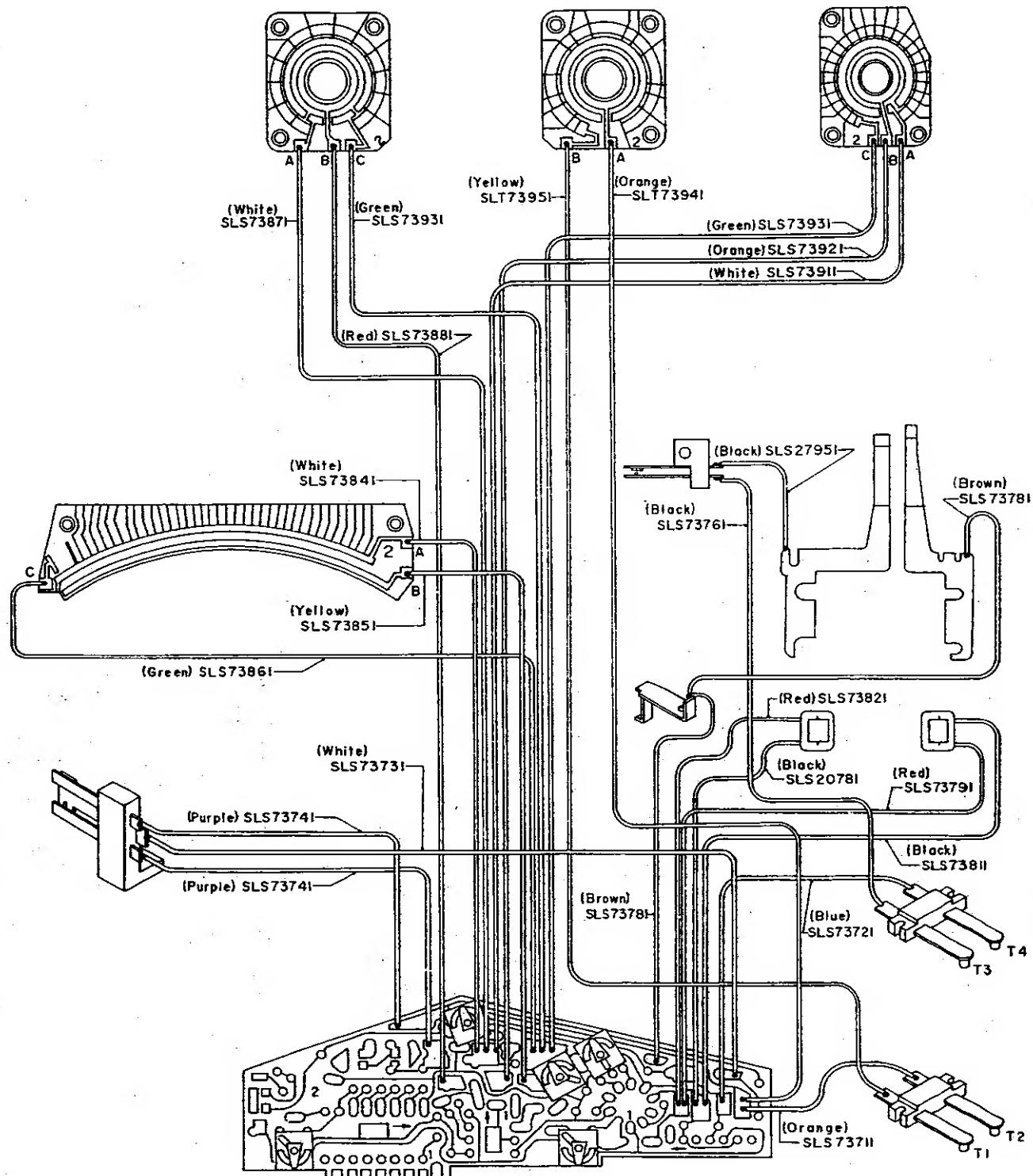




SLT 71901

# Electric Circuit Diagram

for PD Prism Finder S 1/1000



**Mamiya**